TRADE AND INDUSTRY

26 August 1971 Volume 4 No 8 10p

Exporting to Canada—6: prospects for British industry in Quebec

Acquisitions and mergers of companies in the second quarter of 1971

Consulting engineers, architects and surveyors and overseas contracts

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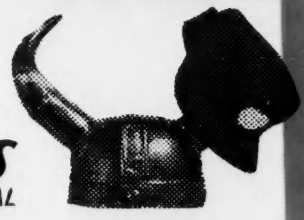

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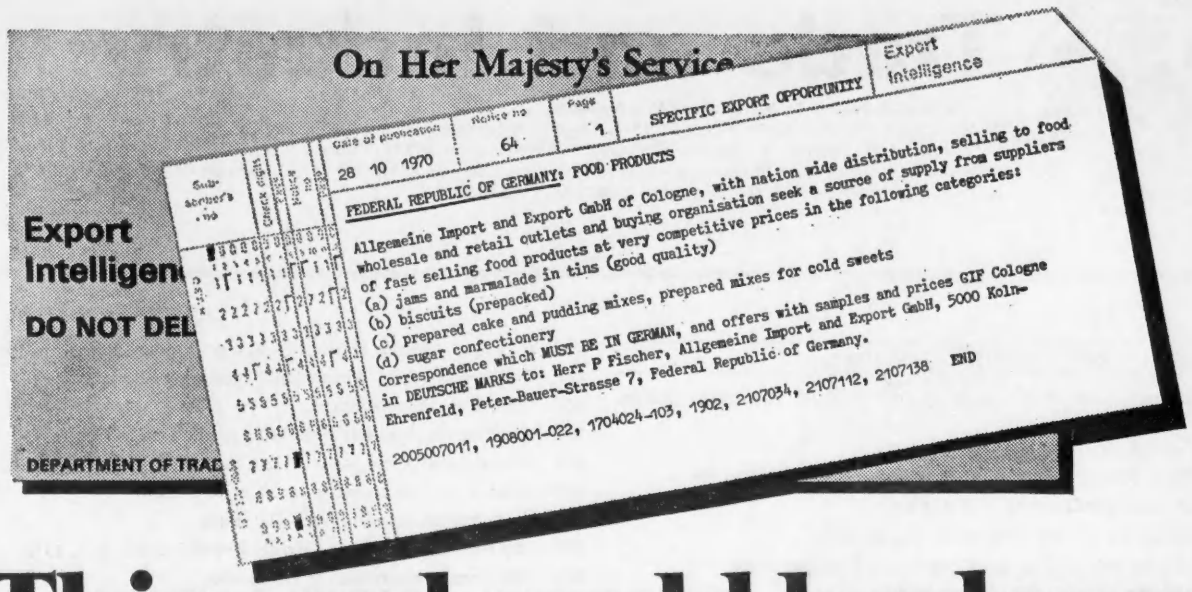
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EXPORTING TO CANADA—6

Prospects for British business in Quebec Province

by the British Government Office, Montreal

QUEBEC, Canada's largest province, has great potential. It has enormous reserves of mineral wealth, and cheap hydro-electric power with which to exploit them. Its position on the Seaway gives it access to markets in both Canada and the US. It has very well-developed financial services available in Montreal. Its industry is diversified, ranging from mining and heavy engineering, through electronics, chemicals, textiles and clothing, to agriculture and fishing. Its culture and tastes reflect the mixture of its French and English speaking population.

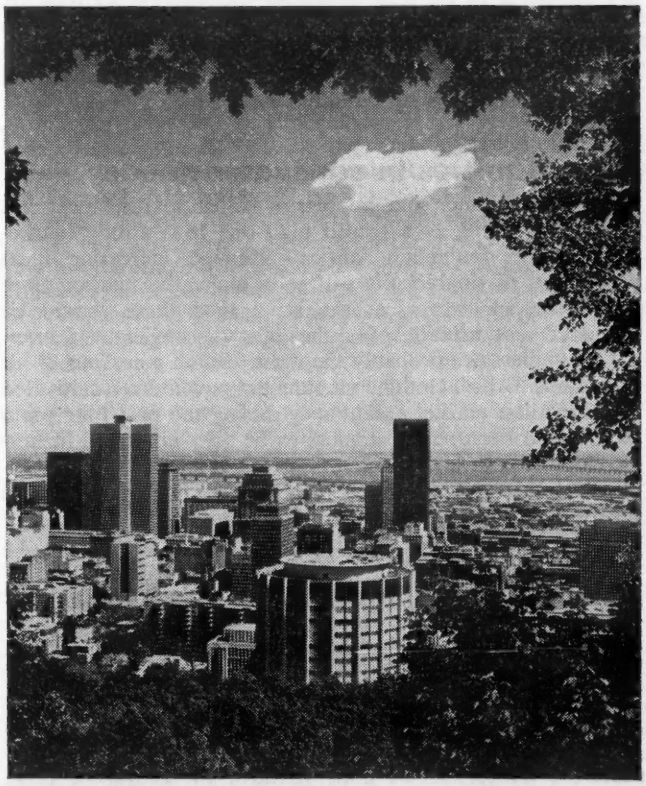
Montreal is the largest city in Canada and, with a population of 2½ million, is the second largest French-speaking city in the world. It was the site of Expo '67, and the Olympic Games are to be held there in 1976. Both Montreal and the attractive provincial capital of Quebec City are major tourist centres attracting visitors from all over North America to enjoy 'La Belle Province' and the benefits of the good food and gay clothing in which the French Canadian himself is particularly interested. British firms have long and effective links with commerce and industry in Montreal, and Quebecers are used to looking to Britain for investment and trade. Many big (and less big) British concerns have established subsidiaries in Quebec, some of which have become household names here: BP, Schweppes, Brooke-Bond, J & P Coats, Golden Eagle, and many others.

The economic potential

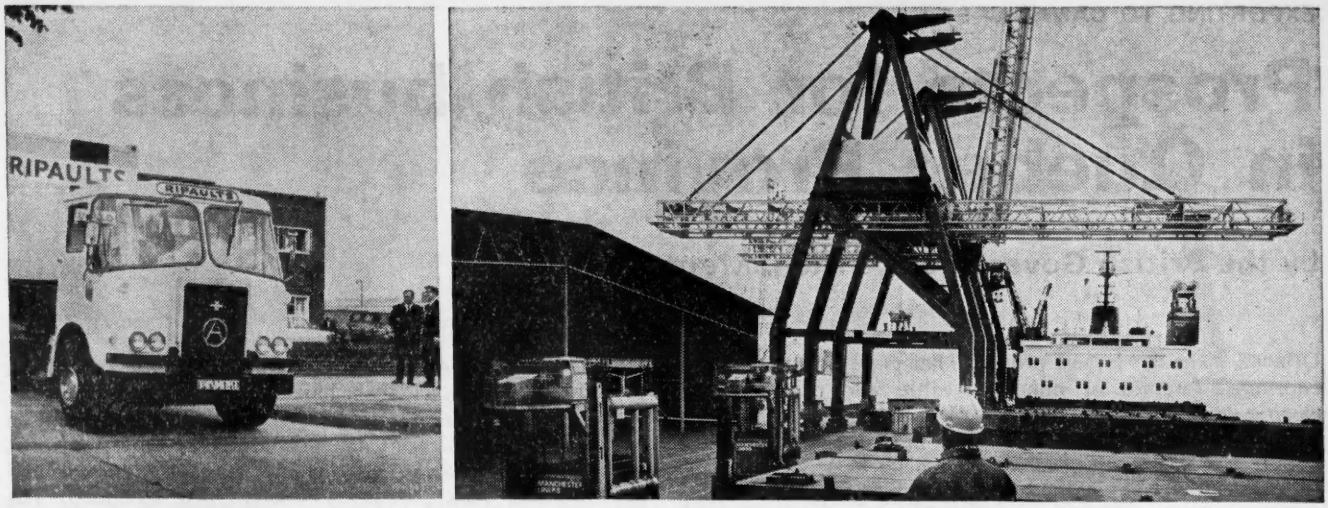
At the moment, for a variety of reasons, the economic potential is not being fully exploited. Quebec tended to be left behind in the late 60s when the growth of the Canadian economy was stimulated by the boom in exports of the automotive and non-ferrous metal industries, largely centred in Ontario. Similarly, the Federal government's later anti-inflationary policies had a proportionately more restrictive effect on the Province.

The Quebec pulp and paper industry (which in 1969 shipped 35.7 per cent of Canada's production of pulp and paper) is having problems that are accentuated by the increases in value of the floating Canadian dollar. The electronics and aerospace industries are in some difficulty. The textile, shoe and chemical industries have been laying off employees. Unemployment is running at a fairly high level. But the Provincial government, in accordance with its election platform, is giving high priority to improving the currently slack economy, offering (in concert with the Federal government) financial incentives to potential investors and pressing ahead with imaginative development schemes. The Provincial government estimated last year's gross provincial product at $21,794 million; their forecast for 1971 is over $23½ million.

There are many opportunities for British exports. Eventually the depressed industries (which are frequently in areas of long-term world growth) will need to re-equip their plant. Pollutant industries and municipalities are currently being both cajoled and fiscally encouraged to instal anti-pollution equipment. There has been a comparative lull in building and redevelopment in Montreal since 1967, when Expo and a building boom absorbed considerable funds. But apart from plans for the Olympics, there have been a series of announcements of plans for large-scale construction development in Montreal and in Quebec City. A $400 million airport is about to be constructed at St. Scholastique, outside Montreal, and the Montreal underground system is being extended. The shipyards in Quebec City and near Montreal have earned contracts worth about $250 million, with the help of federal subsidies and Export Development financing; and there are opportunities for selling equipment and steel to them. The Provincial Government is encouraging diversification of the ports and deepening the St. Lawrence so that Quebec City (open throughout the year) can handle ships up to 100,000 tons. CP are spending a lot of money enlarging the port facilities in Quebec City which will supplement Montreal's role as the largest deep water inland port in North America. There are two major iron ore projects in north eastern Quebec, a refinery near Trois Rivières, and a $500 million pulp mill project at Port Cartier under way or planned. According to the survey of manufacturing investment intentions published by the federal DITC and DBS in April, total intended capital spending in the province in 1971 on construction machinery and equipment is $3,833 million—more than a 13 per cent increase over actual spending in 1970. The



Downtown Montreal viewed from the top of Mount Royal.



Left: Ripaults Ltd. of Enfield recently received orders for automobile ignition cables totalling £60,000. Picture shows the second of six similar container loads to leave Ripaults' Harold Hill branch factory destined for their new, Montreal-based distributors. Right: Manchester Liners/ Furness container terminal at Montreal.

increase is accounted for by a $445 million jump in public spending and spending in publicly bolstered sectors.

The government has just enacted legislation to go ahead with a $6 billion plan to develop a vast hydro-electric scheme on the rivers which flow into the James Bay inlet of Hudson Bay. This will supplement the electricity available from the huge Churchill Falls complex. It will be the largest single project ever undertaken in Quebec and the largest hydro-electric power project in the Western Hemisphere, draining an area of 50,000 square miles (a quarter the size of France) and designed eventually to provide 10 million kilowatts of power. Heavy construction is expected to start before the end of 1973. It will provide 125,000 new jobs building vast dams, 500 miles of new roads, two airports and a port, and in making it possible to exploit new mining and forestry developments in the area. Although we can expect that the corporation set up to administer this may give priority to Quebec or Canadian producers, the scale of the enterprise is so vast that there should be opportunities for British industry (and British subsidiaries in Canada).

Opportunities in consumer goods

On the consumer side, imports of British textile fabrics are currently running at a record high due to a strong market demand for doubleknit fabrics—although increasing local production of doubleknits will soon make the market more competitive. However, at the same time there should be increased opportunities for the sale of singleknit fabrics.

Montrealers are probably the most fashion-conscious of all Canadians. British clothing manufacturers who have cultivated the Canadian market assiduously during the past four years have found Montreal customers to be very interested in new developments in high fashion. There is a continually increasing demand for inexpensive high fashion lines. But such is the pace of change in the fashion world that fast deliveries are essential to gain the maximum, sales from a product's short life.

Consumer goods sales are helped by the availability in Montreal of the Place Bonaventure complex. This is the premier modern merchandising mart in Canada with a 200,000 square foot exhibition hall, a hotel, a shopping plaza and five floors of showrooms and office space, largely devoted to consumer-orientated products. The main features are the trade shows held in Concordia Hall. British manufacturers participate in joint ventures in several of these events, in particular the Toy Fair and the Shoe and Leather Fair, which are attended by buyers from right across Canada.

Earlier articles have pointed out that each province or area in Canada requires a different sales approach. This is particularly true of Quebec in which 80 per cent of the 6 million population are French-speaking and 60 per cent do not speak English. This means that particular attention must be paid to bilingual labelling. This is a legal requirement for food products and it is desirable for all classes of exports, particularly consumer goods or shop floor machinery. There is advantage in being prepared to do business in French when necessary. As in all provinces in Canada, British exporters have to overcome strong competition from the United States; often the Canadian firms have an American background, and this can lead to a tendency, reinforced by the short communications line, to buy American. British suppliers also suffer from a reputation, even though only sometimes deserved, of slipping delivery dates, labour problems and unwillingness to keep in close touch with their purchasers over changes in delivery, price, etc. This means that an aggressive approach to selling and after-sales service is needed.

Marketing in Quebec province requires a careful approach, and at the moment it can sometimes be less rewarding than

BP Canada Ltd. refinery at Ville d'Anjou near Montreal.

marketing in more prosperous provinces or countries. But there are sectors in which British exports are doing well; and, given the great potential, it is an area well worth a special effort.

Exporting to Canada

Previous articles in this series have appeared in the following issues of *Trade and Industry*.

Exporting to Canada—a new period of growth: July 22.
British Columbia—a market on the grand scale: July 29.
Alberta—a booming economy: August 5.
Manitoba and Saskatchewan—a regional market that deserves closer attention: August 12.
Ontario—the richest market in Canada: August 19.

Minister for Industry visits Glasgow

MR. VICTOR FEATHER, General Secretary of the TUC called on Sir John Eden, Minister for Industry on August 19, to present to the Government the TUC's proposals for a Clydeside Development Authority. At the same time Mr. Feather asked the Government to intervene to postpone the redundancy notices on UCS workers coming into effect the next day.

The Minister said that he saw great difficulty about postponing the issue of notices, particularly in view of the responsibilities of the Official Liquidator for UCS. He was, however, flying to Glasgow the same day to discuss further developments with the Liquidator.

The concern of the Government, Sir John said, was to ensure a viable shipbuilding entity on the Upper Clyde within the framework of the scheme outlined by the Secretary of State on July 29, and to retain for this purpose as many of the existing jobs as possible.

Sir John made it clear that the Government would study with close attention the Clydeside Development Authority proposals. He added that the Government were giving urgent consideration to the situation in West Central Scotland. In this connection, the TUC's proposals were timely and helpful.

Sir John said he had agreed to meet the TUC next week to discuss their proposals further.

Bolton inquiry on small firms—guide to sources of finance

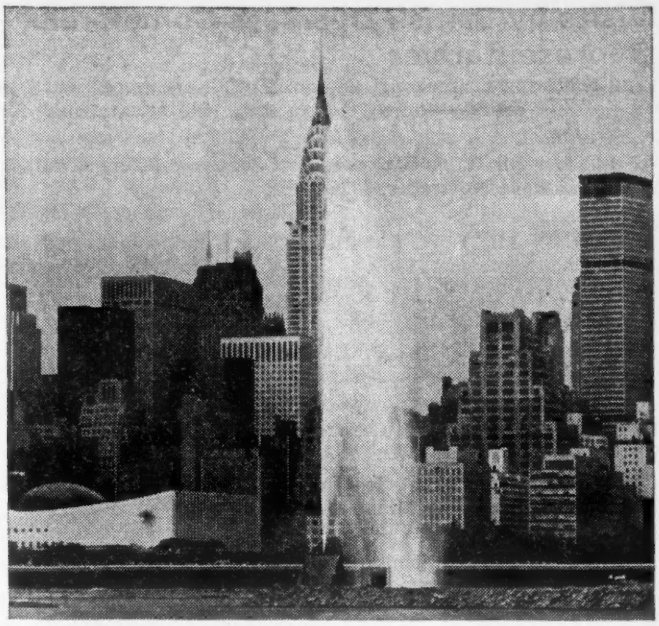
THE results of a detailed survey of the institutions providing finance for small firms are contained in a study, *Financial Facilities for Small Firms* (HMSO, £2.15), by the Economists Advisory Group were published on August 19. The report is the second of 18 research studies commissioned by the Bolton Committee of Inquiry on Small Firms to be published. The committee's own report is due out later this year.

The object of the survey was to discover 'whether small firms are at a disadvantage relative to large ones and, in particular, if there is an institutional gap analogous to the "Macmillan gap" '.

The Macmillan Committee on Finance and Industry reported in 1931 that there was a gap in the capital market in the provision of long-term capital in small amounts to small companies. This conclusion was followed by the setting up of the Charterhouse Group and the United Dominions Trust and, after the war, the Industrial and Commercial Finance Corporation.

The report, which provides a useful guide to the sources of finance for small business, concludes: 'there is no single major defect in financial facilities for small firms that calls for radical action. In short, there is no "Bolton gap".'

The authors nonetheless find that 'small firms are at a disadvantage relative to large firms in a number of significant ways. In particular, they are hit harder by credit restriction and taxation; they are faced with investigation and other costs that are proportionately higher for small loans; they are less well informed about alternative sources of finance; and they are less able to satisfy the requirements of lending institutions as regards financial information and managerial competence'.



A new dominating feature of the New York City skyline is the Delacorte fountain which shoots 400 feet high—about as tall as the United Nations building—and is said to be the highest man-made geyser in the world. In the special A-frame building beneath it, a British-made Rotork electric valve actuator turns on and off a 12 inch Rockwell-Nordstrom plug valve which controls the main water supply to the fountain. The Syncropak actuator was supplied by Rotork Inc., U.S.A., the sales subsidiary of Rotork Controls Ltd., valve control specialists of Bath, Somerset.

The authors suggest that some relaxation in the conventions of financial institutions which may unduly restrict finance to small firms—notably by widening the customary differential in interest rates for small and large loans—would be beneficial but they recommend no new financial institutions.

They do recommend, however, 'that a central agency should be set up to help in the financial education of managers of small firms and in the dissemination of information about sources of finance'. They suggest that this agency should 'either be run directly by government or heavily supported by tax subsidies'.

Mr. Anthony Grant to visit Algeria

MR. Anthony Grant, Parliamentary Under Secretary of State for Trade, will be visiting Algiers from August 29 to 31 at the invitation of the Algerian Government.

During his visit Mr. Grant will tour the Algiers International Trade Fair where Britain is represented in a national pavilion for the first time. Over 30 British companies will be participating at this event with Department of Trade and Industry assistance and will display a wide range of products including office machines, machine tools, hand and power tools and diesel engines.

Algeria is at present engaged in an extensive programme of industrialisation under her Four Year Development Plan (1970-73) which envisages investment of some £2,230 million. Algeria is also one of our most rapidly expanding markets at the moment. Exports have been doubling in recent years and rose from £4.5 million in 1968 to £16.8 million in 1970. Further substantial increases are expected for this year and British firms have £100 million worth of orders in the pipeline which have yet to appear in the export figures or invisible earnings.

Conference on exporting to the Middle East

A TWO-DAY residential conference on exporting to the Middle East is being arranged by the Centre for International Briefing in association with the British National Export Council Committee for Middle East Trade. The conference will be at the Castle, Farnham, Surrey from November 8 to 10 and the inclusive fee is £50. Further information may be obtained from the Conference Secretary, Farnham Castle, Farnham, Surrey.

Visits by British Overseas Commercial Representatives

THE following Commercial Diplomatic Officers are expected to be in this country shortly, when they will be available for discussion.

BOLIVIA: Mr. P. A. McLean, First Secretary (Commercial) in La Paz since November, 1970.
Available: November/December

CANADA: Mr. T. W. Robinson, Trade Commissioner in Halifax since September, 1969. Available: November

IVORY COAST: Mr. H. B. Herring, Second Secretary (Commercial) since February, 1969. Available: November

PERSIAN GULF: Mr. P. J. Hurr, Second Secretary (Commercial) in Qatar, Doha since July 1969.
Available: November

SINGAPORE: Mr. J. J. Caselton, Second Secretary (Commercial) since October, 1969. Available: November/December

SWEDEN: Mr. O. G. Griffith, OBE, MVO, First Secretary (Commercial) in Stockholm since August, 1969.
Available: October/November

British firms and organisations, other than those in the areas covered by the Department of Trade and Industry offices for the Eastern Region and the London and South Eastern Region, who wish to meet any of these officers to discuss specific export problems are asked to write for an appointment to the appropriate Department of Trade and Industry Regional Director (Exports) stating the nature of the problem and commodities involved. (The Department's Regional Offices together with the areas covered and the appropriate office for Northern Ireland were listed on page 445 of *Trade and Industry* of March 3, 1971). Those firms and organisations in the London-based Regions mentioned above (together with those in other Regions who would prefer, or who would be prepared if necessary, to meet the officer for an interview in London) should write to Tours Section, Department of Trade and Industry, Room G60, Export House, 50 Ludgate Hill, London EC4M 7HU.

Because visiting officers often have only limited time at their disposal it may not always be possible to arrange an interview. Where it is not possible, firms are reminded that the Export Services Division of the Department of Trade and Industry, Export House, 50 Ludgate Hill, London EC4M 7HU, who are in close touch with all overseas representatives can very often supply advice, or the information that applicants hoped to obtain at the interview. Outside London the Regional Offices of the Department of Trade and Industry or, in Northern Ireland, the Ministry of Commerce, Belfast, can also supply this help.

Visit of Chinese telecommunications delegation

A DELEGATION from the General Administration of Telecommunications of The People's Republic of China arrived in the United Kingdom on August 22. The twelve strong delegation is led by Mr. Chung Fu-Hsiang, Director of the Administration, who is of ministerial status. The delegation are visiting this country as guests of the British Government.

During their stay in the United Kingdom, which is expected to last about a fortnight, the delegation will be received by Mr. Anthony Grant, Parliamentary Under-Secretary of State for Trade, and Mr. Christopher Chataway, Minister of Posts and Telecommunications.

The delegation will also be meeting Mr. W. Ryland, chairman of the Post Office, and Mr. Edward Fennessy, managing director: Telecommunications, as part of a programme of discussions with Post Office experts and visits to Post Office establishments. A series of visits to UK manufacturers of telecommunications equipment is also planned.

Notes

Mr. Chung Fu-Hsiang is the first visitor of ministerial status to visit the UK for several years.

UK trade with China in 1970 totalled approximately £78 million (exports, including re-exports, £44.6 million, imports £33.5 million).

Before the Glasgow branch of MSAS (McGregor, Swire Air Services, part of The Ocean Steam Ship Group) freighted a £3,200 consignment of bagpipes to Australia's Victoria Police Pipe Band, MSAS sales representative, Mr. Ian Anderson (centre) visited the manufacturers, R. G. Lawrie Ltd., He is pictured here with Mr. Arthur Lawrie (right), managing director and Mr. Robert Murray. During 1970 Lawries exported £33,000 worth of bagpipes

EEC—vocational training

ARTICLE 128 of the Treaty of Rome states: 'The Council shall, on a proposal from the Commission and after the Economic and Social Committee has been consulted, lay down the general principles for carrying out a common policy of vocational training capable of contributing to the harmonious development of the economies both of individual States and of the common market.' The *Journal Officiel des Communautés Européennes* No. C81 dated August 12, 1971, contains the text of the general principles laid down by the Council. The French text of the above may be seen on application to Commercial Relations and Exports Division, Department of Trade and Industry, 1 Victoria Street, London, SW1 (Tel. 01-222 7877, Ext. 2354/5).

Official appointments

THE Secretary of State for Trade and Industry has authorised the following appointment.

Mr. N. C. Lake, to be a part-time member of the Northern Gas Board.

The Secretary of State for Trade and Industry has agreed to the early retirement of Mr. Arthur Bond, chairman of the Yorkshire Electricity Board, and has accepted his resignation as from December 31, 1971.

The Secretary of State for Trade and Industry, has authorised the following appointments and reappointments to the Coal Consumers' Councils.

Domestic Coal Consumers' Council

Mrs. S. M. Niblett, formerly deputy chairman, has succeeded Mrs. M. R. Beale as chairman of the Council.

New members appointed to the Council are Mr. R. Crowther, Mr. K. Goodwin, Mrs. Hilda F. Hawnt, Mr. J. Jennings, Mrs. J. Wyndham-Kaye, and Mr. D. M. Clement.

Members reappointed to the Council for a further term are Mr. J. Charrington, Mrs. M. Ewan, Mr. Edward Lee, Mr. A. M. Parkin, Mrs. V. D. E. Purvis, Mr. S. F. Moppett, and Mr. J. Barratt.

Industrial Coal Consumers' Council

Mr. Ivan C. Hill has been appointed for a further term as chairman of the Council.

Mr. L. A. W. Jenkins has become deputy chairman in place of Mr. D. Cory-Wright who has retired from the Council.

New members appointed to the Council are Mr. G. F. Hurst, Mr. G. H. Lowthian, and Mr. D. M. Clement.

Members reappointed to the Council for a further term are Mr. G. Armstrong, Mr. T. B. Boothman, Mr. M. F. Gordon, Mr. W. N. Menzies-Wilson, Mr. A. E. R. Taylor, and Mr. J. Barratt.

Fourth round petroleum production licences: competition bids opened

APPLICATIONS for the 15 areas in the North Sea allocated for competitive tender by the Department of Trade and Industry were received on August 20 by the Treasury Solicitor's Department.

Invitations for the blocks were made by a notice published in the *London Gazette* on June 22 when DTI announced the fourth round of Continental Shelf petroleum production licences covering 436 blocks or groups of blocks in four main areas. The blocks not allocated for competitive tender were available on terms generally similar to those applying in earlier rounds.

The tenders were opened at 2 p.m. in the cinema at Millbank Tower in the presence of representatives of the companies which submitted tenders.

Arrangements for the opening of tenders are as follows:

1. One envelope to be opened at a time by a representative of the Treasury Solicitor; the contents to be listed and the documents passed to the Presiding Officer by way of administrative assistants who ensure that the name(s) of the tenderer(s) and the amount(s) of the bid(s) are readily apparent and who make notes for the visual aid staff so that the announcement and the visual presentation coincide as closely as possible.
2. The presiding Officer announces the names of the applicants and the value of the bid made for each block;
3. Details of the bids to be projected on to screens in the cinema thus building up a complete picture of all bids received;
4. When all tenders have been opened and announced, the following information should be available:
   (i) the total number of tenders received;
   (ii) the total number of companies involved;
   (iii) the total number of bids for each of the 15 blocks;
   (iv) the highest bid for each block and the rate per sq. km. and possibly per acre.
   (v) the total value of the highest bids with the average rate per sq. km.

Awards will be made as quickly as possible.

Background note

The first production and exploration licences were issued in 1964. They were confined to the North Sea. Fifty-three production licences were issued covering 348 blocks each being about 250 square kilometres.

The second issue of production licences took place in 1965. One thousand one hundred and six blocks were offered (mainly in the North Sea but some in the Irish Sea) including those offered in 1964 but not taken up. Thirty-seven licences covering 127 blocks were issued.

The Third Round took place in 1969/70 when 157 blocks were offered and 34 licences covering 101 blocks were issued including a number in the Irish Sea.

Five major gas fields have been discovered off the East Anglian and Yorkshire coasts. Three of these fields are now in production —West Sole, Hewett and Leman Bank. Four pipelines are in operation, three terminating at Bacton and one at Easington. Production from the other two fields—Indefatigable and Viking—is expected to commence towards the end of 1971 and in 1972 respectively.

The gas from Viking will be brought ashore to a new terminal being constructed near the coast at Theddlethorpe, Lincolnshire.

The average daily production during the past twelve months has been 1,450 million cu. ft. and the latest estimate of recoverable reserves is about 32 trillion cu. ft. to sustain a rate of production of at least 4,000 mcfd by the mid 1970's. In the second quarter of this year the intake from the North Sea was equivalent to nearly 90 per cent of the total gas available.

Oil has recently been discovered in the Northern Basin of the North Sea off the Scottish coast; this has followed closely on the discoveries in the Norwegian Sector. The companies concerned are Shell, BP, Gas Council/Amoco and Phillips. Further appraisal and outstep drilling will be necessary before the commercial importance of these finds can be assessed, the prospects, however, are encouraging.

EEC/EFTA Information Unit at DTI

THE EFTA Information Centre at the Department of Trade and Industry has now been expanded into the EEC/EFTA Information Unit.

EEC Information: The Unit is the Department's central inquiry point for general questions and, where necessary, will put inquirers in touch with appropriate specialists in the Department. Inquiries on specific matters, however, should continue to be addressed to the appropriate part of the Department dealing with the particular matter where this is known.

A new booklet, **Notes on the aims of the European Communities and on the Rules and Obligations of membership** gives informal guidance so far as DTI aspects are concerned. Free copies are available from the address below.

EFTA Information: The Unit will continue to disseminate information about the European Free Trade Association and to deal with general inquiries and advise on sources of more detailed information on EFTA. Copies of EFTA publications (including the Secretariat's regular EFTA Bulletin) can be obtained free of charge from the Unit.

The EEC/EFTA Information Unit is at DTI, 1 Victoria Street, London SW1H 0ET. Telephone: 01-222 7877. EEC Inquiries Ext. 3579 or 2479, EFTA Inquiries Ext. 2480 or 2479.

Scenes during the competitive tendering for North Sea petroleum production licences at Millbank Tower, London, on August 20. On the left, representatives of the companies submitting tenders; picture on the right shows the bids being opened.

Patents endorsed 'Licences of Right'

Under Section 35 of the Patents Act, 1949, the following Patents were endorsed 'Licences of Right' on the dates specified:

Number	Grantee	Subject-matter
August 4, 1971		
1,044,709	International Standard Electric Corporation	Copper etching method
1,112,675	International Standard Electric Corporation	Transistorised television receiver
1,114,641	International Standard Electric Corporation	Two-way amplifier for telephone systems
1,129,630	International Standard Electric Corporation	A pulse transmission device for intertraffic equipment in loudspeaker private branch exchanges
1,157,360	International Standard Electric Corporation	Error correcting digital transmission systems
1,184,730	Muanyagipari Kutato Intezet	Basic aluminium nitrates
1,187,388	Gaskell & Chambers (Non-Drip Measure) Ltd.	Dispensing apparatus
1,222,119	Glaverbel	Processes for strengthening vitreous, vitro-crystalline and ceramic bodies
August 5, 1971		
1,021,948	GAF Corporation	Polymerization of acetylene and derivatives thereof
1,076,726	,, ,,	Production of azoic dyes and pigments
1,120,789	,, ,,	Homopolymers of maleic anhydride
1,125,935	,, ,,	Production of surface active agents
1,159,408	,, ,,	Detergents
1,108,303	Tomohiro Harie	Porous abrasive and process for producing the same
1,138,648	World Carpets Inc.	Variable stitch placement attachment for tufting machine
1,165,093	Ateliers Heuze, Maleuez & Simon Reunis, Societe Anonyme	Apparatus for establishing the co-ordinates of defects of a sheet of material
1,165,101	Ateliers Heuze, Maleuez & Simon Reunis, Societe Anonyme	Process and apparatus for breaking a sheet of glass
1,177,042	Ateliers Heuze, Maleuez & Simon Reunis, Societe Anonyme	Apparatus for scoring sheet glass
August 6, 1971		
1,015,840	Standard Telephones and Cables Ltd.	Thermionic valves
1,022,069	Standard Telephones and Cables Ltd.	Winding apparatus
1,022,366	Standard Telephones and Cables Ltd.	Semiconductor devices
1,048,214	Standard Telephones and Cables Ltd.	Semiconductor devices
1,095,690	Standard Telephones and Cables Ltd.	Reciprocating punch
1,099,868	Standard Telephones and Cables Ltd.	A digitally companding P.C.M. encoder
1,148,680	Standard Telephones and Cables Ltd.	D.C. to A.C. static inverters
1,155,076	Standard Telephones and Cables Ltd.	Amplifier for electric signals
1,186,416	Standard Teephones and Cables Ltd.	Electrical intelligence storage equipment
August 9, 1971		
997,014	International Standard Electric Corporation	Change-over contact arrangement in electro-magnetic relays
1,027,492	Submarine Cables Ltd.	Repeatered telephone systems
888,146	American Felt Company	Compound fabric and moulding process employing same
1,083,547	,, ,, ,,	Polishing heads for glass or the like
1,138,466	,, ,, ,,	Filters media

The first Pye Unicam computer-controlled chromatograph system to be installed in the United Kingdom is now in operation in the Shell Refinery at Stanlow, Ellesmere Port, while a second installation in on the point of completion for Duphar Pharmaceuticals in Weesp, Holland. The Pye Unicam DP90 Datacon System is a new method of data processing and on-line computer control which can handle up to 450 analyses an hour on 30 chromatographs in simultaneous operation. Picture shows Pye Unicam and Shell executives discussing the operation of the computer-controlled chromatograph system.

August 10 1971		
926,235	Chemetron Corporation	Catalyst and the production thereof
1,149,115	Chisso Corporation	Filter for tobacco smoke
1,155,130	Sels et Produits Chimiques Societe Anonyme	Process for producing acoustically insulating surfacings
1,168,508	Fiat Societa per Azioni	Sealing of slidable and/or rotatable shafts
August 16, 1971		
1,173,682	Sanford David Greenberg	Method and apparatus for signal alteration
1,173,683	,, ,, ,,	Apparatus for altering the relative positions of signals
1,224,991	Glaverbel	Process for forming metallic coatings on glass and other materials
August 18, 1971		
1,117,306	Jacob Lionell Davies	Domestic Space heaters
1,211,495	Societe D'Optique, Precision Electronique et Mecanique 'Sopelem'	Servo-valve
1,213,491	Societe D'Optique, Precision Electronique et Mecanique 'Sopelem'	A cinematographic taking lens with variable focal length
1,216,383	Societe D'Optique, Precision Electronique et Mecanique 'Sopelem'	A refractometer using the critical angle method
1,218,382	Secim	Bar stacking machine
1,213,444	Societe Industrielle Delaltre —Levivier 'S.I.D.L.'	Wheeled vehicles
1,222,618	Plysu Products Ltd.	Culinary devices

Any person who claims that the patentee at the time of endorsement of any of the above patents was precluded by a contract in which claimant is interested from granting licences under the patents may apply for cancellation of the endorsement on Patents Form No. 45 within two months after the date of endorsement.

E. ARMITAGE
Comptroller

Notice is hereby given that the endorsement 'Licences of Right' upon the undermentioned Patent was cancelled on August 18, 1971.

Number	Grantee	Subject-matter
935,958	Les Applications Industrielles du Tube Societe Anonyme	Arrangement for adjusting and fixing the relative position of two tubes slidable one inside the other
1,015,168	Societe d'Applications des Machines Motrices	Hydraulic reciprocating motors
1,043,827	Standard Telephones and Cables Ltd.	Receivers of radio-frequency oscillations
1,152,061	The Upjohn Company	Pelleting apparatus

E. ARMITAGE
Comptroller

Patent Office publications for industry

THE Patent Office offers industry a wide range of publications. These include the Official Journal (Patents) the Trade Marks Journal, British Patent Specifications, Illustrated Abridgements of Patent Specifications, Reports of Patent, Design and Trade Mark Cases, and 50-year subject matter file lists of British Patent Specifications. Details of these and other publications may be obtained by post from Sale Branch, the Patent Office, Orpington, Kent, BRS 3RD or by personal application at the Public Sale Counter of the Patent Office, 25 Southampton Buildings, London, WC2.

Wood chipboard anti-dumping application

THE Department of Trade and Industry has made an Order amending the Order which imposed from July 8, 1971 provisional charges to anti-dumping duty on certain imports of wood chipboard. The Amending Order excludes as from August 20 wood chipboard without surface lamination of a thickness of 8 mm. or less and integrally tongued and grooved chipboard (whether or not rebated) of a thickness of not less than 18 mm. and not more than 22 mm. from the original definition. The Order also imposes provisional charges to anti-dumping duty of £2 per cubic metre on wood chipboard from Portugal falling within this revised definition and produced by Joao Marques Pinto & Cia Lda or Sociadade de Iniciativa e Approveitamentos Florestais SARL.

Copies of this Amending Order, the Anti-Dumping (Provisional Charge to Duty) (No. 3) (Amendment) Order 1971, SI 1971/1348, are available from HMSO, 59 High Holborn, London WC1 (price 3p) or by post from HMSO, PO Box 569, London SE1 (price 5½p).

Notes

A provisional charge is not a duty as such, but a security, in the form of a cash deposit, will be required from importers or their authorised agents by HM Customs and Excise for the payment of any definitive anti-dumping duty which may subsequently be imposed.

Such a definitive anti-dumping duty may be made retrospective to the date of imposition of the provisional charge but not before, and the rate of any retrospective duty cannot be higher than the provisional charge.

If an Order imposing a retrospective duty is not made before the provisional charge lapses or is revoked, the deposits will be returned. If such an Order is made, the deposits will be set off against the duty. If the period or rate of the retrospective duty is less than that of the provisional charge, the appropriate repayments will be made.

Applications for temporary exemption from import duty

THE Department of Trade and Industry are considering applications for the temporary exemption from import duty of the materials listed below on the grounds that these materials are not made in this country or the Commonwealth or the supply available from these sources is not substantial having regard to the existing United Kingdom demand.

Representations are invited from manufacturers in this country or agents of Commonwealth manufacturers who consider they are, or will be within a reasonable period, in a position to supply a substantial proportion of the United Kingdom demand for these materials, or who are interested in their future production.

Temporary exemptions come into effect on the operative date of the Treasury Order in which the materials are specified and normally continue until the end of the current calendar year, when they are reviewed.

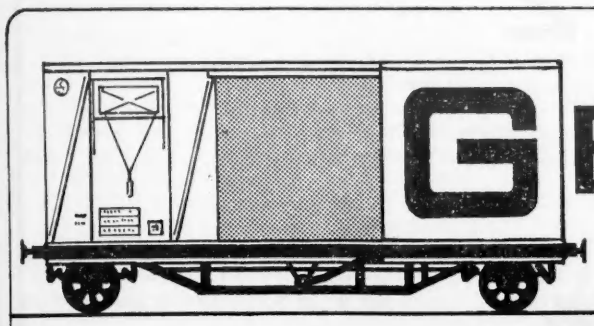
Interested parties who wish to make representations should address them to Tariff Division, Department of Trade and Industry, Brunswick House, 2 Central Buildings, Matthew Parker Street, London SW1, preferably through a Trade Association, giving the respective reference shown below and stating whether their names may be passed to the applicants for temporary exemption. Representations should be received by September 9.

Tariff heading	Proposed definition for tariff purposes	Applied for as	Exemption required until	Reference
29.16	Potassium sodium tartrate	as in previous column	December 31, 1971	11941
29.27	Acetronitrile	as in previous column	December 31, 1971	11857

Note: Amended definition

Interested parties will wish to know that the definition for Latex saturated asbestos felt (68.13) has been amended to the following:

Asbestos paper, rubber impregnated, in rolls, being not less than 0.55 millimetre and not more than 0.85 millimetre in thickness, weighing not less than 500 grammes and not more than 780 grammes per square metre, and having a loss on ignition at 1,000° centigrade of not less than 24 per cent by weight and not more than 32 per cent by weight.



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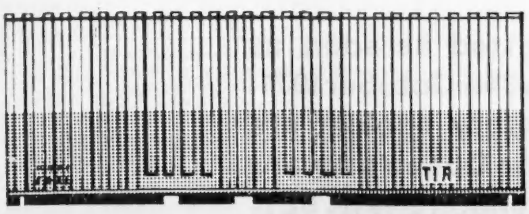

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THE QUEEN'S AWARD TO INDUSTRY 1972

Applications should be submitted as soon as possible before the closing date, 31st October 1971. Official forms and an explanatory booklet are available from: The Office of The Queen's Award to Industry, 1 Victoria Street, London SW1H 0ET.
Tel: 01-222 2277

Anti-dumping—provisional charge on chromic anhydride from the USSR

THE Department of Trade and Industry have made an Order imposing, for a period of three months from August 24, 1971, a provisional charge to anti-dumping duty of £50 per ton on imports of chromic anhydride (CrO_3—also known as chromium trioxide or chromic acid) originating in the Union of Soviet Socialist Republics.

This charge has been imposed pending a full investigation by the Department of an application from the British industry affected for the imposition of an anti-dumping duty under the Customs Duties (Dumping and Subsidies) Act 1969, on these imports.

A statement of the applicant's case will be made available to any interested parties who give an undertaking to treat the information contained in the statement in confidence. Requests for the statement, together with an undertaking in these terms, should be sent in writing to the Tariff Division, Department of Trade and Industry, Room 103, Brunswick House, 2 Central Buildings, Matthew Parker Street, London SW1.

Any representations which interested parties may wish to make in connection with this application should be submitted in writing not later than September 16, 1971. Such representations in summarised form and without attribution to the source may be passed to the applicants for comment. Those making the representations should stipulate any particular points which they do not wish to be disclosed.

Copies of the Order imposing this charge, the Anti-Dumping (Provisional Charge to Duty) (No. 4) Order 1971 (SI 1971/1357), can be obtained from HMSO, 59 High Holborn, London WC1 (price 3p) or by post from HMSO, PO Box 569, London SE1 (price 5½p).

Background notes

A provisional charge is not a duty as such; but a security, in the form of a cash deposit, will be required from importers or their authorised agents by HM Customs and Excise for the payment of any definitive anti-dumping duty which may subsequently be imposed.

Such a definitive anti-dumping duty may be made retrospective to the date of imposition of the provisional charge but not before, and the rate of any retrospective duty cannot be higher than the provisional charge.

If an Order imposing a retrospective duty is not made before the provisional charge lapses or is revoked, the deposits will be returned. If such an Order is made, the deposits will be set off against the duty. If the period or rate of the retrospective duty is less than that of the provisional charge, the appropriate repayments will be made.

Restrictive Trade Practices Act 1968: Nine agreements not being investigated

MR. JOHN DAVIES, Secretary of State for Trade and Industry, has given directions to the Registrar of Restrictive Trading Agreements under Section 9(2) of the Restrictive Trade Practices Act, 1968, discharging him from taking proceedings in the Restrictive Practices Court in respect of the nine agreements listed below.

Number on the Register	Parties
304	Tank and Industrial Plant Association
546	The Clothing Manufacturers' Federation of Great Britain
784	Incorporated National Association of British and Irish Millers Ltd.
1404	The British Carton Association
1406	The British Paper Box Federation
3099	Lincolnshire and Norfolk Dairies Limited and Private Enterprise Grocers (PEG)
3100	National Coal Board; United Coke and Chemicals Company Limited; Staveley Chemicals Linited: and Phthalic Anhydride Chemicals Ltd.
3437	Compound Animal Feeding Stuffs Manufacturers' National Association Limited
3567	The Electronic Engineering Association

Background notes

Section 9(2) of the 1968 Act allows the Secretary of State, upon the representation of the Registrar, to discharge him from the duty of taking proceedings in the Restrictive Practices Court in respect of agreements in which the restrictions are not of such significance as to call for investigation by the Court.

The practical importance of the use of this power is that it shows that registration of an agreement does not lead inevitably to its examination by the Court; industry can therefore be less hesitant about making and registering agreements in circumstances which do not involve significant restrictions on competition.

Directions have now been issued under Section 9 in respect of 90 agreements. Such agreements are available for inspection in the Public Room at the Office of the Registrar of Restrictive Trading Agreements, Chancery House, 53 Chancery Lane, London WC2A 1SP.

Firms proposing to enter into a registrable agreement, or trade associations intending to make a registrable recommendation to their members, may approach the Registrar informally for a prior indication of the likelihood of the agreement or recommendation being eventually the subject of a direction under Section 9(2). How clear an indication can be given in any particular case must depend on all the circumstances, including the degree of restriction of competition which is contemplated and the extent to which a full explanation can be made of what is envisaged. But short of a binding promise, which cannot be given, the Registrar will be as helpful as he can.

Investment Grants Termination No. 1 Order 1971

BY a direction under Section 1 (6) of the Investment and Building Grants Act 1971, the list of forms in the annex to the direction made under the same Section and published on page 326 of *Trade and Industry* of August 19 has been corrected to relate Form IG/13 to plant and machinery provided for use in the extractive industry.

Temporary importation of magnetic recording media

THE Commissioners of Customs and Excise have made the Temporary Importation (Magnetic Tapes) Regulations, 1971.

The regulations permit magnetic tapes, discs, drums, cards and similar magnetic recording media to be temporarily imported into the United Kingdom without payment of duty, for use, for recording, or for any recording thereon to be amended or erased. But any goods carrying recordings of sound or visual phenomena are not entitled to relief if of a kind produced in quantity for general sale as so recorded.

The goods must normally be re-exported within three months but provision exists for an extension of this period in certain cases. The regulations come into operation on September 1, 1971. They are made under Section 40 of the Customs and Excise Act 1952 and have been published as Statutory Instrument 1971 No. 1356 obtainable from HM Stationery Office, price 3p or 5½p including postage. Notice No. 211 explains the procedure to be followed. This can be obtained on application to HM Customs and Excise, I D Section 6, King's Beam House, Mark Lane, London EC3R 7HE.

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Clearance of merger proposals by the DTI

THE Department of Trade and Industry announce that on the information at present before them it is not their intention to refer to the Monopolies Commission, under the provisions of the Monopolies and Mergers Act 1965, the proposed merger between the following companies:

The Land Securities Investment Trust Ltd. and The Westminster Trust Holdings Ltd.

Trafalgar House Investments Ltd. and Cunard Steam-Ship Company Ltd.

Eagle Pencil Company Ltd. and Venus Esterbrook Ltd.

Foreign exchange market

HM TREASURY announced on August 20 that the London foreign exchange market would re-open on August 23. The parity of the pound sterling would be unchanged at $2.40 = £1.

For the time being dealings would not be necessarily confined within existing limits.

The Bank of England would continue to publish daily dealing limits.

Medicines Act 1968: human and veterinary medicines

THE Health and Agriculture Ministers have made two Orders under the Medicines Act 1968 whereby from the start of general licensing on September 1, 1971, a product licence will be required for the export of certain biological products.

The Medicines (Exportation of Specified Products for Human Use) Order 1971 (SI 1971/1198) has been made under the Medicines Act 1968 by the Health Ministers for the United Kingdom. It excepts certain medicinal products for human use, in relation to their exportation, from the postponement of the operation of the licensing provisions granted by Section 48(1) of the Act. The medicinal products which will by virtue of the order be subject to export licensing under the Medicines Act are—those medicinal products for administration to human beings which consist wholly or partly of antigens, antitoxins, sera, anrisera, toxins or vaccines.

The Agriculture Ministers for the United Kingdom have made a similar order entitled the Medicines (Exportation of Specified Veterinary Products) Order 1971 (SI 1971/1309). The medicinal products and substances which will by virtue of the order be subject to export licensing under the Medicines Act are—medicinal products and substances for use other than for human beings which consist wholly or partly of antigens, antisera, antitoxins, corticotrophin, heparin, hyaluronidase, insulin, plasma, preparation of the pituitary (posterior lobe), sera, toxins, vaccines and other medicinal products or substances derived from animals.

The Orders referred to above take effect from August 31, 1971.

Notes

Part II of the Medicines Act 1968 makes provision for the licensing of medicinal products for human and veterinary use having regard to their safety, efficacy and quality. The first appointed day for the implementation of licensing has been announced as September 1, 1971.

Copies of the Medicines Act 1968 and of Orders made under it can be bought from Government Bookshops. The general arrangements for licensing of medicinal products are explained in the 'Guide to the Licensing System' copies of which can be obtained free of charge from the Department of Health and Social Security, Medicines Division, Finsbury Square House, 33-37a Finsbury Square, London (Tel. 01-638 6020), or from the Ministry of Agriculture, Fisheries and Food, Government Buildings (North Block), Leatherhead Road, Chessington, Surrey (Tel. Epsom 28661).

Trawler support ship 'Miranda'

THE Department of Trade and Industry support ship 'Miranda' will be leaving Hull at the end of August for a tour of duty in support of British trawlers in northern waters.

The support ship will play a rather different role on this occasion from her winter tours off Iceland in that her prime function will be to provide medical advice and technical assistance. She will carry a medical officer, Doctor Robert Scott of Harrogate, who served on the ship last winter and on the Orsino in two previous winters, but will not carry a meteorological officer.

'Miranda' will not make a regular check on the position of each trawler as in the winter operation. Instead trawler owners are being asked to keep the Coastguard Rescue Headquarters at Gorleston informed of the position of their patrol ships so that 'Miranda' can keep the control vessels informed each day of her position and likely future movements. Constant watch on the distress frequency (2182 Khz) will also be maintained on 'Miranda'.

'Miranda' will work in those areas where there has been a major concentration of trawlers. On present advice she will be stationed initially off south east Iceland; she may then move north westwards across the north of Iceland to the north west grounds to cover in rotation the major distribution of British trawlers. Whether 'Miranda' moves to Norway will depend upon the movement of the trawler fleet.

A LIBRARY FOR EXPORTERS

Foreign trade statistics and other economic statistics from almost every country in the world are available for reference in the Department of Trade and Industry Statistics and Market Intelligence Library at Export House, 50 Ludgate Hill, London, EC4M 7HU. A modern well-equipped library of over 85,000 volumes, it has a reading room for visitors and provides a document-copying service. There are trade directories covering 150 countries, and an expanding collection of trade catalogues of overseas manufacturers. The library opens from 9 to 5.30, Mondays to Fridays (Tel. 01-248 5757 ext. 368 or Telex No. 886143).

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Government surplus sales

MINISTRY OF DEFENCE

SALES BY AUCTION

September 1-2, 1971 Miscellaneous Stores

Location: TA and VR Centre, Meadowforth Road, Stirling

Auctioneers: Dixon and Wallace Ltd. (Dept. L), Bank Buildings, Graham Square, Glasgow, E.1. (Tel. 041-544 2447)

Miscellaneous aircraft equipment and spares; charging sets; generating sets; industrial tractors; machine tools including, portable electric and pneumatic drills; hand tools; 5 cwt. to 2-ton geared chain blocks; saddles and harnessing; bulkhead and wall clocks; stop watches; binoculars; compasses; cameras and photographing equipment; MT spares; tyres; miscellaneous dry batteries; furniture including beds, tables, chairs, desks, etc.; textiles, carpets; blankets; rags; kitbags, etc.; large quantities of ex CD clothing including blue webbing anklets, blouses and trousers, gabardine raincoats, greatcoats, berets and combination overalls; khaki BD; denims; shirts; boots and shoes.

September 7 Miscellaneous Stores

Location: Regional Depot, Ordnance Support Unit, RAOC, Barlow, Nr. Selby, Yorks.

Auctioneers: Bartle & Son (Dept. L), 52 Merrion Street, Leeds, Yorks LS2 8JH. (Tel. 0532 20898)

Diesel and electric fork lift trucks; lathes; radial and pillar drills; cylinder bench and post tool grinders; guillotine and shearing machines; engraving machine; planing and thicknessing machines; sewing machines; welding equipment; test rig; Coles crane parts; spraying machines; pressure washers; trailer fire pump; charging sets; pneumatic tools; fire fighting equipment; cable; tyres; electrical, signal and wireless equipment; vehicle spares; tool kits and hand tools; hydraulic and screw jacks; household and kitchen equipment; aluminium ladders and steps; ironmongery; plastic sheets 160 ft. × 90 ft.; electric fires and irons; watches; compasses, etc.; tents; canvas; carpets; curtains; kitbags; camp equipment; blankets; sheets; blue and khaki overcoats; battledress; raincoats; rubber knee boots; chairs; tables; wardrobes; chests of drawers; desks; beds, etc.; large quantities of miscellaneous stores.

September 14 Plant and Equipment, Clothing and Miscellaneous Stores

Location: Central Ordnance Depot, Bicester, Oxon.

Auctioneers: Midland Marts Ltd. (Dept. L), Market Square, Bicester, Oxon OX6 7AL (Tel. 08692 2073)

Ferguson agriculture tractors; Barford and Muirhall dumpers; road rollers; concrete breakers; concrete mixers; air pump compressors; loading shovels; auto truck; centrifugal pumps; 5 gall. drums; vehicle spares; a few machine tools; very large quantities of clothing including denim overall trousers and blouses; vests; shorts; women's denim overalls; green bush jackets; khaki battledress; items of miscellaneous furniture and other general stores.

September 22-23 Miscellaneous Stores

Location: Ordnance Storage and Disposal Depot, Branston, Staffs.

Auctioneers: Arnold & Son (Dept. L), 'Modwena', 13 Market Place, Burton upon Trent, Staffs (Tel. 0283 64657)

Large quantity of surplus clothing; textiles; furniture; wooden boxes of various sizes including aero engine cases; bogie trucks; warehouse trucks; ball and roller bearings; mine detectors; machine tools including, capstan and centre lathes; engraving machines; welding units; topping buffing, polishing, marker machines; bench fly press; grinding machines, etc.; large quantities of miscellaneous stores.

Catalogues of the above sales obtainable from relevant auctioneers about two weeks prior and up to date of sale, price 5p (postal order only).

Sales by Tender: Machine Tools

Horizontal borers; bench, pillar and radial drills; internal, surface, plain and tool and cutter grinders; capstan, turrent, and centre lathes; horizontal, vertical and universal millers; presses; gear cutting, slotting, sawing, shaping, sheetmetal working and woodworking machines, etc. Located at Devonport, Devon. Permission to view on presentation of Tender Form only, obtainable from Ministry of Defence, Directorate of Sales (Supply), Sales (S) 6aiv, First Avenue House, High Holborn, London WC1V 6HE. Tenders must be returned by 10 a.m. on the following dates:

Tender No. 3122 September 22, 1971.
Tender No. 3123 October 5, 1971.

DEPARTMENT OF THE ENVIRONMENT

September 7, 1971

Location: Department of the Environment Supplies Division Stores, India Pavilion, Exhibition Grounds, Wembley, Middlesex. (Tel. 01-902 4482)

Auctioneers: Messrs. Fuller Horsey, Sons and Cassell, 10 Lloyds Avenue, Fenchurch Street, London EC3N 3BJ. (Tel. 01-709 0101)

Office and miscellaneous furniture, engineering, electrical, canteen, domestic and other equipment, etc.

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Index to statistics and organisational information published regularly in TRADE and INDUSTRY

A = annually; M = monthly; Q = quarterly; 6M = every six months.

All dates before October 21, 1970, refer to articles in the *Board of Trade Journal*

Title	Last published
Air transport:	
Aircraft noise at Heathrow and Gatwick airports (Q)	July 22, 1971
Air miss reports (A)	April 1, 1970
Mileage and traffic (A)	April 29, 1970
Trade by air (6-M)	Mar. 24, 1971
Balance of payments:	
Civil aviation (Q)	Oct. 28, 1970
Trends in invisible transactions (Q)	June 23, 1971
UK balance of payments (Q)	June 16, 1971
Bankruptcy orders (Q)	May 5, 1971
Business names registered (A)	Jan. 27, 1971
Capital expenditure:	
Distributive and service trades (A)	April 28, 1971
Industry's capital expenditure (Q)	July 15, 1971
Catering trades turnover (M)	Aug. 19, 1971
Chemicals industry (Q)	This week
Companies:	
Acquisitions and mergers (Q)	This week
New companies registered:	
Gt. Britain (M)	Aug. 19, 1971
N. Ireland (M)	Aug. 12, 1971
Computers:	
UK computer market (Q)	Aug. 19, 1971
Construction work overseas (A)	Oct. 14, 1970
Credit:	
Instalment credit business (M)	Aug. 12, 1971
International trade credit (A)	April 14, 1971
ECGD business (Q)	June 9, 1971
Electronics capital equipment deliveries, research and development (Q)	This week
Engineering and electrical goods:	
Deliveries and orders (M)	This week
Film industry:	
British Film Fund Agency returns (M)	Aug. 12, 1971
Cinema admissions and takings (M)	Aug. 5, 1971
Overseas payment and earnings (A)	Aug. 5, 1971
Registration of films (A)	Feb. 24, 1971
Trends in film going (A)	Aug. 19, 1971
Food:	
Consumption levels (6-M)	July 15, 1971
Household consumption (Q)	July 15, 1971
Footwear industry production, orders and deliveries (M)	Aug. 5, 1971
Foreign trade:	
EFTA trade (Q)	June 16, 1971
Industrial countries trade and production (Q)	Aug. 5, 1971
World exports of manufacturers (A)	Sept. 30, 1970
Foreign trade of the UK:	
Direct exports (A)	April 14, 1971
Unit value and volume index nos. (M)	Aug. 12, 1971
Value of overseas trade (M)	Aug. 19, 1971
Value of overseas trade: analysis of trends (Q)	Aug. 5, 1971
Gold and convertible currency reserves (M)	Aug. 12, 1971
Hairdressing trades turnover (M)	Aug. 19, 1971
Hire purchase business (M)	Aug. 12, 1971
Industrial building (Q)	July 29, 1971
Industrial development certificates refused (A)	July 15, 1971
Industrial production:	
Index nos. (M)	Aug. 19, 1971
Industrial production:	
N. Ireland index (M)	July 29, 1971
Wales index (Q)	June 30, 1971
Insurance companies assets (A)	Aug. 12, 1971
Investment:	
Book values of overseas direct investments (every 3 years)	Sept. 23, 1970
Industry's investment intentions (3 times a year)	June 16, 1971
Investment and earnings overseas (A)	April 7, 1971
Laundries and dry cleaners turnover (M)	Aug. 19, 1971
Machine tools deliveries and orders (Q)	June 30, 1971
Man-made fibres:	
Analysis of production (Q)	Aug. 12, 1971
Deliveries (Q)	Aug. 12, 1971
Production (M)	Aug. 12, 1971
Volume of production (M)	Aug. 12, 1971
Motor industry:	
Car and commercial vehicle production (M)	Aug. 5, 1971
Motor trades turnover (M)	Aug. 19, 1971
Office development permits (Q)	June 2, 1971
Partnerships registered (A)	Jan. 27, 1971
Pension funds: assets (A)	This week
Retail prices index (M)	This week
Retail trades:	
Index nos. (M)	Aug. 12, 1971
N. Ireland index (M)	Aug. 19, 1971
Royalty transactions (A)	Mar. 31, 1971
Shipping:	
Nationality of vessels in UK sea-borne trade (A)	Feb. 10, 1971
Steel consumption (Q)	Aug. 19, 1971
Stocks:	
Distributive and service trades (A)	April 28, 1971
Industry's stocks (Q)	July 15, 1971
Retail (M)	Aug. 19, 1971
Television:	
Overseas payments and earnings (A)	Aug. 5, 1971
Textiles:	
Clothing and textile orders and deliveries (M)	Aug. 12, 1971
Cotton production (M)	July 29, 1971
Hosiery production (M)	Aug. 19, 1971
Wholesale houses sales (M)	Aug. 19, 1971
Wool exports (Q)	June 23, 1971
Wool output (M)	July 29, 1971
Tourism:	
International tourism (A)	Sept. 23, 1970
UK tourist traffic (M)	Aug. 12, 1971
Wholesale prices:	
Average prices of selected commodities (A)	Feb. 24, 1971
Index nos. (M)	Aug. 19, 1971

Dept. of Trade and Industry organisation, etc.

Subjects	Last published
British commercial representatives overseas	June 30, 1971
Business Monitor titles	This week
Customs notices of interest to exporters	Aug, 19, 1971
Directory of DTI (formerly BOT) departments and their work	April 8, 1970
DTI addresses (former BOT offices)	Mar. 3, 1971
DTI Regional Directors	Mar. 3, 1971
ECGD local offices	June 16, 1971
Index Jan.-Mar. 1971	May 26, 1971
Official receivers offices	May 20, 1970
Programme of trade promotions	July 22, 1971
Release dates of economic statistics	This week

The economy: selected indicators

Series expressed as index numbers and seasonally adjusted except where shown otherwise

SYMBOLS USED IN ALL STATISTICAL TABLES—

.. not available
~ nil or less than half the final digit shown
p provisional
r revised
* five week period
Ø fifty-three week period

	Gross Domestic Product (Expenditure estimates)	Index of Industrial Production	Consumers' Income and Expenditure				Fixed Capital Expenditure					Increase in Stocks			
							Total	Selected Components				Total	Selected Components		
			Personal disposable income	Total consumers' expenditure		Retail sales		Manufacturing industry	Distributive and service industries	Dwellings	Public sector excluding dwellings		Manufacturing industry	Wholesalers	Retailers
	at 1963 prices		at current prices		at 1963 prices	at 1966 prices	at 1963 prices					at 1963 prices			
Base of index £m. in base year	1963	1963	1963	1963	1963	1966	1963	1963	1963	1963	1963				
	26,758		21,758	20,087	20,087	11,372	4,907	1,070	994	944	1,752	Series in £ million			
1965	108	111.7	115	114	106	..	121	124	119	127	117	385	263	47	31
1966	110	113.2	122	121	108	100.0	124	128	115	128	125	254	143	25	17
1967	112	113.9	127	126	110	101.4	133	124	122	138	142	184	–37	13	22
1968	116	119.8	135	135	112	103.6	140	130	144	145	142	157	23	75	41
1969	118	122.9	143	143	113	103.0	136	140	148	130	131	357	232	26	27
1970	120	124.1	156	155	116	104.2	139	152	157	117	136	344	214	42	51
1969 1st qtr	115	122.0	140	138	111	102.3	134	128	138	134	136	96	105	6	5
2nd qtr	118	123.1	142	142	113	103.7	135	141	147	130	129	84	43	2	1
3rd qtr	119	123.2	144	144	113	103.2	138	146	155	130	130	51	—	8	8
4th qtr	120	123.3	147	147	114	102.9	138	146	153	126	131	126	84	10	13
1970 1st qtr	117	123.8	149	148	114	103.3	133	144	144	112	133	–31	32	–5	–41
2nd qtr	120	123.5	155	153	116	104.2	142	153	163	118	137	106	55	11	21
3rd qtr	120	124.3	159	158	117	104.6	139	154	156	119	133	117	40	6	12
4th qtr	122	124.6	163	161	118	104.7	122	157	167	119	139	152	87	31	60
1971 1st qtr	116	124.4	164	161	116	101.9	137	145	145	114	148	43	67	—	–75
197. Nov		123.4				103.3									
Dec		125.0				104.9									
1971 Jan		126.8				102.7									
Feb		123.8				99.7									
Mar		122.7				103.0									
Apr		126.5				104.7									
May p		126.4				104.9									
Jun p		127.0				103.4									

	Orders	Prices and Costs					Labour			Trade (§)		Balance of Payments current balance
	Engineering and electrical goods† orders on hand (end period)	Retail prices Index		Wholesale price index: non-food manufacturing industry		Basic hourly wage rates (all industries and services)	Wholly unemployed excluding school leavers	Unfilled vacancies for adults	Civil employment	Imports(‖)	Exports(¶)	
	at 1963 prices	Index‡	% increase on year earlier	Basic materials and fuel used‡	Manufactured products: home sales‡		Mid-month or monthly average		Quarter or quarterly average	at current prices		
Base of index £m in base year	Dec. 1963	16 Jan. 1962		1963	1963	31 Jan. 1956	Series in thousands			1963 4,362	1963 4,282	Series in £ million
1965	119	112.1	*4.8*	106.8	104.6	157.9	308	265	24,784	116	112	–77
1966	115	116.5	*3.9*	110.2	107.3	168.5	323	255	24,835	120	121	55
1967	106	119.4	*2.5*	108.4	108.2	175.3	512	174	24,476	130	120	–297
1968	106	125.0	*4.7*	120.5	112.4	187.3	541	188	24,331	159	146	–306
1969	117	131.8	*5.4*	125.0	115.9	197.4	535	200	24,304	165	165	437
1970	125	140.2	*6.4*	128.5	124.6	217.7	574	186	24,135	181	184	621
1969 2nd qtr	113	131.8	*5.4*	124.2	115.1	195.6	519	202	24,332	165	163	99
3rd qtr	115	132.0	*5.0*	126.1	116.5	197.8	547	200	24,285	165	171	166
4th qtr	117	133.7	*5.1*	127.3	118.0	201.6	544	199	24,249	169	172	162
1970 1st qtr	118	136.2	*5.0*	130.1	120.6	209.0	561	192	24,275	171	180	218
2nd qtr	122	139.5	*5.8*	129.2	123.6	214.0	563	187	24,138	183	183	147
3rd qtr	123	141.1	*6.9*	126.9	125.7	219.5	592	185	24,072	178	175	77
4th qtr	125	144.0	*7.7*	127.8	128.4	228.3	581	177	24,054	190	199	179
1971 1st qtr	120	147.9	*8.6*	131.2	131.7	237.5	631	146		189	186	77
2nd qtr	117 p	153.2	*9.8*	137.2 p	134.8 p	242.2 p	725	131		200 p	211 p	
1970 Dec	125	145.0	*7.9*	128.5	129.1	233.3	589	171		186	204	
1971 Jan	122 p	147.0	*8.5*	129.8	130.8	237.1	613	157		174	175	
Feb	120	147.8	*8.5*	130.6	131.7	237.4	623	147		187	172	
Mar	120	149.0	*8.8*	133.2	132.6	238.1	656	134		207	211	
Apr	118 p	152.2	*9.4*	137.2	134.0	239.2	704	129		201 p	209 p	
May	118 p	153.2	*9.8*	137.3	135.0	242.7	731	130		195 p	206 p	
Jun	117 p	154.3	*10.3*	137.4 p	135.7 p	245.0	740	133		203 p	218 p	
Jul.				137.7 p	136.0 p		788	122		198 p	214 p	
Aug.						246.6 p	799 p	123 p				

(†) New series covering SIC Orders VII-IX; previous series also included part of Order XI. (‡) Not seasonally adjusted
(§) On a balance of payments basis. (‖) Includes payments for United States military aircraft and other balance of payments adjustments
(¶) Includes balance of payments adjustments and allowances for factors affecting recording

Acquisitions and mergers of companies

Introduction

THIS note sets out the latest statistics on company acquisitions and mergers, giving details up to and including the second quarter of 1971.

To clarify the relationship between the existing quarterly series which is given on a consistent basis back to the beginning of 1969 and previous date on acquisitions, an opening section discusses trends in acquisition activity since 1960.

Acquisition activity since 1960

Information on acquisitions is available from two basic sources: published company accounts and reports in the financial press. The longest consistent series on acquisitions is that derived from the Department of Trade and Industry's analysis of quoted company accounts and which goes back to 1954. This series has been published in *Economic Trends* [1] [2] and the *Board of Trade Journal* [3]. The drawbacks to this series were that the figures related to a variety of accounting years (although these were grouped to give an approximation to the calendar year) and that the complete figures only became available after a considerable delay. Also, acquisitions by companies outside the Department's analysis (which covers quoted industrial and commercial companies operating mainly within the United Kingdom) were not covered.

To overcome the problem of delay, from the beginning of 1968, information on acquisitions and mergers for companies in the Department's analysis was extracted from the financial press and published quarterly in the *Board of Trade Journal* [4]. Then, towards the end of 1969 the series based on the financial press was extended to cover all non-financial companies [5]. In the first quarter of 1971 this series was revised to cover only acquisitions within the United Kingdom and to incorporate an improved method of valuing mergers [6].*

In order to eliminate these changes in coverage so far as possible in this article the current series of figures on the basis now adopted is linked to the historical series derived from company accounts, figures in both bases being given for 1969, which is taken as the link year. An attempt has then been made to produce some broad indices of acquisition activity whether measured in terms of numbers or expenditure.

Adjustments have been made so that mergers are treated in a uniform way throughout as the acquisition of the smaller company (or companies) by the larger company involved in the transaction. The main differences between the two series are set out below:

Quoted companies (accounts)		All companies (press)	
Excludes	acquisitions by non-quoted companies, acquisitions by quoted companies in agriculture, shipping and property, and quoted companies operating wholly or mainly abroad	Excludes	many small acquisitions not mentioned in the financial press
Includes	acquisitions of foreign companies by quoted United Kingdom companies	Includes	only acquisitions of United Kingdom companies by United Kingdom companies
Relates	to a variety of accounting years	Relates	to the calendar year

An industrial analysis of the figures for 1969 and 1970 is provided in the Business Monitor M7, Second quarter 1971. An industrial analysis of the figures for 1960-9 derived from the analysis of company accounts will be published in the next issue of the Business Monitor M7, Third Quarter 1971 (due to appear in November 1971).

Both series exclude acquisitions by companies in insurance, banking and finance.

As the two sets of figures for 1969 indicate, rather more acquisitions were identified from company accounts than from the financial press, despite the more restricted group of companies covered by the former analysis. However, in terms of expenditure, acquisitions identified from the financial press were 15 per cent greater than those identified from company accounts. Thus, the value of acquisitions by companies not covered in the regular quoted company accounts analysis more than outweighed the more numerous but usually very small acquisitions referred to in accounts but not in the press. While neither series gives an absolutely complete picture of acquisition activity, combining the two series in the form of a linked index gives a broad indication on trends in activity in terms of numbers and expenditure during the past decade.

*For references [1] to [6], see accompanying notes and definitions.

TABLE 1. ACQUISITION ACTIVITY 1960-70

Index (1960 = 100)

	Number of acquisitions			Expenditure (£ million)				
	Total	Mergers	Acquisitions	Total	Mergers	Acquisitions	Total number	Total expenditure
1960	739	3	736	358	20	338	100	100
1961	639	7	632	521	153	368	86	146
1962	640	4	636	370	34	336	86	103
1963	888	3	885	352	23	329	120	98
1964	940	1	939	505	3	502	127	141
1965	1,000	5	995	517	10	507	135	144
1966	807	2	805	500	53	447	109	140
1967	763	—	763	822	—	822	103	230
1968	946	4	942	1,946	172	1,774	128	544
1969	*907*	*2*	*905*	*935*	*8*	*927*	*123*	*261*
1969	846	2	844	1,069	8	1,061	123	261
1970	793	6	787	1,122	42	1,080	115	274

Sources: 1960-9, acquisitions referred to in quoted companies' accounts.
1969-70, acquisitions by industrial and commercial companies referred to in the press.

TABLE 2. SIZE DISTRIBUTION OF COMPANY ACQUISITIONS, 1962-70

	Number of acquisitions involving an expenditure of			
	Over £5 million	Over £½ million and up to £5 million	£½ million or less	Total
1962	13	96	531	640
1963	14	119	755	888
1964	22	118	800	940
1965	16	125	859	1,000
1966	18	103	686	807
1967	34	129	600	763
1968	64	203	679	946
1969	*38*	*221*	*648*	*907*
1969	47	227	572	846
1970	37	190	566	793

Sources: for coverage, see Table 1.

The general picture of acquisition expenditure, which emerges from the table for the last decade is of a slow rise (but with substantial year to year fluctuations) between 1960 and 1966, followed by a very rapid rise between 1966 and 1968, a substantial falling back in 1969 and a levelling off in 1970. The year to year changes in expenditure tended to be more closely related to the number of large acquisitions occurring each year rather than the total number of acquisitions. Thus between 1966 and 1967 the total number of acquisitions fell slightly, although expenditure and the number of large acquisitions rose by 64 per cent and 89 per cent respectively. Although the number of acquisitions by quoted companies rose by nearly a quarter between 1967 and 1968, expenditure more than doubled and the number of large acquisitions almost doubled. This situation was almost reversed between 1968 and 1969 with a small fall in total numbers and a substantial fall in both expenditure and the number of large acquisitions. There was little significant change in either numbers or expenditure between 1969 and 1970, expenditure rising by no more than the general level of inflation.

It was mentioned earlier that very small acquisitions tend to be reported more comprehensively in company accounts than in the press and this is made clear in the two sets of figures for 1969 for acquisitions involving expenditure of £½ million or less (648 from quoted company accounts and 572 from press reports of all companies).

Acquisition activity in the second quarter of 1971

Acquisition activity within the United Kingdom in the second quarter of 1971 recovered from the low ebb reached in the first quarter. Two hundred and nineteen acquisitions by industrial and commercial companies were reported in the financial press during the quarter, compared with 159 in the first quarter and a quarterly average of about 200 during 1970. Expenditure on acquisitions more than doubled between the first and second quarters, from £90 million to £187 million, though the latter figure remained below the quarterly average of over £280 million during 1970.

TABLE 3. ACQUISITIONS AND MERGERS WITHIN THE UNITED KINGDOM

	Acquisitions of independent Companies			Mergers†			Total (1 and 2)			Sales of subsidiaries between Company Groups			Total number of acquisitions		
	No.	No.	Values	No.	No.	Value	No.	No.	Value	No.	No.	Value	No.	No.	Value
	Acquiring	Acquired	£ million	Acquiring	Acquired	£ million	Acquiring	Acquired	£ million	Acquiring	Acquired	£ million	Acquiring	Acquired	£ million
1969	593	742	961.6	2	2	7.6	595	744	969.2	91	102	99.7	686	846	1,068.9
1970	484	608	954.1	6	6	42.5	490	614	996.6	139	179	125.9	629	793	1,122.5
1969 1st quarter	163	208	358.7	1	1	1.9	164	209	360.6	26	26	42.3	190	235	402.9
2nd quarter	164	212	265.9	1	1	5.7	165	214	271.6	18	22	14.3	183	236	285.9
3rd quarter	136	164	206.9	—	—	—	136	164	206.9	23	23	19.3	159	187	226.2
4th quarter	130	157	130.1	—	—	—	130	157	130.1	24	31	23.8	154	188	153.9
1970 1st quarter	128	160	223.1	2	2	35.5	130	162	258.6	34	44	30.6	164	206	289.2
2nd quarter	128	168	388.1	1	1	4.0	129	169	392.1	26	34	43.0	155	203	435.1
3rd quarter	116	144	220.7	—	—	—	116	144	220.7	33	34	12.1	149	178	232.8
4th quarter	112	136	122.2	3	3	3.0	115	139	125.2	46	67	40.2	161	206	165.4
1971 1st quarter	89	110	62.1	—	—	—	89	110	62.1	43	49	27.7	132	159	89.8
2nd quarter	121	148	142.5	—	—	—	121	148	142.5	53	71	44.7	174	219	187.2

† A merger is reckoned as the acquisition of the smaller company by the larger company involved in the transaction and valued at the market value of the smaller company's share of the newly formed company.

TABLE 4. CATEGORIES OF EXPENDITURE ON ACQUISITIONS AND MERGERS WITHIN THE UNITED KINGDOM

	Expenditure (£ million)				Percentages of expenditure		
	Total	Cash	Issues of ordinary shares	Issues of fixed interest securities	Cash	Ordinary shares	Fixed interest securities
1969	1,069	296	552	221	*27.7*	*51.6*	*20.7*
1970	1,122	251	596	275	*22.4*	*53.1*	*24.5*
1971 1st quarter	89.8	39.2	35.6	15.1	*43.7*	*39.6*	*16.8*
2nd quarter	187.2	51.9	82.5	52.7	*27.7*	*44.1*	*28.2*

The statistics set out in tables 3 and 4 are the main items from a detailed analysis of company acquisitions which has been published as Business Monitor M7, Acquisitions and Mergers of Companies (obtainable from HMSO each quarter for an annual subscription of 37½p.).

There was a rise in the number of large acquisitions in the second quarter, with eight acquisitions involving an expenditure of over £5 million, compared with three such acquisitions in the first quarter. The eight large acquisitions accounted for half the total expenditure during the second quarter.

The number of acquisitions of independent companies rose from 110 in the first quarter to 148 in the second quarter, while the expenditure significantly more than doubled. Inter-group sales of subsidiaries also rose, both in number and expenditure, and continued to run at a higher level than a year earlier. In the second quarter of 1971, inter-group sales represented one-third of the total number of acquisitions and slightly under one-quarter of total expenditure.

A lower proportion of expenditure on acquisitions in the second quarter was in the form of cash (28 per cent) than in the first quarter (44 per cent), a reversion to the average proportion during the previous two years. A high proportion of expenditure was in the form of fixed interest securities (including covertible loan stocks), 28 per cent of the total compared with 17 per cent in the first quarter and about 25 per cent on average during 1970.

There were comparatively few significant acquisitions of foreign companies by United Kingdom companies reported in the second quarter (14 with an expenditure of about £5 million). Also, acquisitions of United Kingdom companies by foreign companies remained at a relatively low level.

Notes and definitions

This analysis of acquisitions and mergers involving industrial and commercial companies in the United Kingdom is based on reports in the financial press supplemented by special inquiries to companies to determine the form, value and timing of particular acquisitions.

Acquisitions and mergers involving financial companies (insurance, banking, etc.) are not covered in this note, although the Bank of England has prepared an analysis of such acquisitions from 1966 which will be published shortly.

Valuation

The values shown relate in general to expenditure during the current period, excluding any previous investment in the company acquired. Where possible, values are market values, ie the cash paid or the market price at date of issue of shares or loan stock issued. Where market values are not available (as in the case of shares, etc. issued by non-quoted companies) or the cash consideration is not disclosed, acquisitions are in general valued at the net book value of the acquired company.

No method of valuing acquisitions is altogether free from objection and in comparing this series over time one must allow, in addition to the general upward inflation of values, for the considerable short-term fluctuations in share prices which will be reflected in a series where a considerable proportion of expenditure takes the form of share exchanges which are valued at market prices. For example, industrial share prices as measured by the *Financial Times*—Actuaries index rose, on average, by about two-fifths between 1967 and 1968, fell back fractionally between 1968 and 1969 and fell by over a tenth between 1969 and 1970.

Classification

Where the acquired company was a subsidiary of another United Kingdom company, it was classified to the category of inter-group sales. Acquisitions between subsidiaries of the same company group, arising from internal reorganisation, have been ignored.

Each acquiring company is alloted to an industry group corresponding generally to an Order of the Standard Industrial Classification, 1968. Industrial holding companies which cannot be reasonably classified to any of the groups distinguished, and companies trading wholly overseas are treated as separate groups. Where a company has substantial overseas interests, it is classified as far as possible on the basis of its predominant activity within the United Kingdom. The choice between classifying a company to its main activity (which may be less than half its total activity) and classifying it as an industrial holding company is sometimes a fairly arbitrary one.

REFERENCES

[1] 'Acquisitions and amalgamations of quoted companies, 1954-1961' (*Economic Trends*, April 1963).

[2] 'Acquisitions and amalgamations of quoted companies, 1962-1963' *Economic Trends*, November 1965).

[3] 'Income and finance of quoted companies in 1965' (*Board of Trade Journal*, November 4, 1966). 'Trends in company finance' (*Board of Trade Journal*, November 3, 1967; November 15, 1968; December 10, 1969). The final figures for 1968 and 1969 in the series have not been published, but a duplicated table is available from Companies House (Room 406), 55-71 City Road, London, E.C.1. Detailed industrial analyses of the results for 1954-69 in duplicated form are available from the same address.

[4] *Board of Trade Journal*, January 24, 1969; March 14, 1969; May 21, 1969; September 3, 1969; November 5, 1969.

[5] 'Acquisitions and mergers in 1969' (*Board of Trade Journal*, February 25, 1970) sets out the figures for 1969 on both bases. Later figures appeared in the *Board of Trade Journal* on May 27, 1970; August 19, 1970; December 2, 1970; February 10, 1971.

[6] 'Acquisitions and mergers of companies' (*Trade and Industry*, May 14, 1971) and Business Monitor, M7, published May 1971.

Private pension funds in 1970

THIS article presents the main results of an inquiry into private self-administered pension funds' investments during 1970 and their holdings of assets at the end of the year. Fuller details, including quarterly details up to the first quarter of 1971, have been published in Business Monitor, M5, 'Insurance companies' and private pension funds' investment, First Quarter 1971' (obtainable from HMSO, price 37½p per annum).

Revisions

A number of revisions have been made to the figures of previous years, including higher estimates for funds not responding to the inquiries than have been allowed for in the past. The effect of these revisions has been to increase net investment during 1968 and 1969 by 5 per cent and 9½ per cent respectively from the previously published figures, and to increase the value of assets held at the end of 1967, 1968 and 1969 by 4 per cent, 8½ per cent and 3 per cent respectively. The revisions alter slightly the trend of the series from that previously published, with a more substantial increase now in net investment between 1967 and 1968, and a slight increase between 1968 and 1969 in place of the small fall previously shown.

Transactions in assets in 1970

Estimates of total net investment by private self-administered pension funds are shown in Table 1. Funds of co-operative societies are excluded from these estimates, but a footnote to Table 2 gives some information about them.

The total net investment of private pension funds was £349 million in 1970, an increase of £46 million (15 per cent) on 1969. This compares with an increase of £6 million (2 per cent) between 1968 and 1969, and an increase of £41 million (16 per cent) between 1967 and 1968.

There was net disinvestment of £29½ million in public sector securities in 1970, the highest level of disinvestment since this series of statistics was introduced in 1963. Investment in ordinary shares at £165 million was more than double that in 1969, but was still £10 million below the peak figure of 1968. For the second year running there was a small net investment (£3.8 million) in preference shares. Overall net investment in company securities in 1970 at £219 million represented 62.8 per cent of total net investment compared with 61.3 per cent in 1969. Net investment in property unit trust units at £18 million was about a fifth lower than in 1969, whilst net investment in land, real property and ground rents at £52 million was £22 million (30 per cent) below the high figure for 1969. There was a considerable build-up of cash and short-term assets during 1970, which, together with a fall in short-term liabilities, represented 25.6 per cent of total net investment compared with only 2.1 per cent in 1969.

Holdings of assets

Table 2 shows the analysis of holdings of assets by private pension funds (excluding co-operative societies) for the years 1967 to 1970. The estimate of holdings of assets at the end of 1970 increased by 3.1 per cent from £4,468 million at the end of 1969 to £4,607 million at the end of 1970, but this figure was still some £40 million (1 per cent) lower than the figure for 1968. The net disinvestment in public sector securities during 1970 is reflected in the figure for end-year holdings, which at £675 million was £37

TABLE 1. TOTAL NET INVESTMENT BY PRIVATE PENSION FUNDS, 1967 TO 1970†

£ million: *percentage of total in italics*

	Net investment								Assets acquired	Assets realised
	1967		1968 r		1969 r		1970 r		1970 r	1970 r
British government and government guaranteed securities:										
Period to maturity:										
Up to 5 years	–14.7	*– 5.7*	–37.9	*–12.8*	–26.4	*– 8.7*	– 7.2	*– 2.1*	91.2	98.4
Over 5 and up to 10 years	7.7	*3.0*	– 8.4	*– 2.8*	–11.0	*– 3.6*	–16.1	*– 4.6*	66.6	82.7
Over 10 and up to 15 years	–16.1	*– 6.3*	– 8.5	*– 2.9*	5.1	*1.7*	46.5	*13.3*	160.7	114.1
Over 15 years	56.5	*22 0*	39.1	*13.2*	46.1	*15.2*	–44.4	*–12.7*	307.3	351.7
Undated	– 2.7	*– 1.1*	3.6	*1.2*	– 3.1	*– 1.0*	1.2	*0.3*	37.2	36.1
Total	30.6	*11.9*	–12.1	*– 4.1*	10.8	*3.6*	–20.0	*– 5.7*	662.9	683.0
United Kingdom local authority securities:										
Quoted:										
Period to maturity:										
Up to 10 years	–10.6	*– 4.1*	3.4	*1.1*	– 0.5	*– 0.2*	– 8.3	*– 2.4*	14.7	23.0
Over 10 and up to 15 years	0.1	—	4.1	*1.4*	1.9	*0.6*	—	—	10.3	10.3
Over 15 years and undated	7.0	*2.7*	– 1.8	*– 0.6*	– 0.4	*– 0.1*	– 1.2	*– 0.3*	4.6	5.9
Unquoted	1.9	*0.7*	– 2.3	*– 0.8*	– 2.2	*– 0.7*	0.1	—	5.6	5.6
Total	– 1.6	*– 0.7*	3.5	*1.2*	– 1.2	*– 0.4*	– 9.5	*– 2.7*	35.3	44.8
Total of public sector securities	29.0	*11.3*	– 8.6	*– 2.9*	9.6	*3.2*	–29.5	*– 8.5*	698.2	727.7
Company securities:										
Ordinary shares	122.0	*47.6*	174.7	*58.8*	92.5	*30.5*	164.6	*47.2*	421.0	256.4
Preference shares	– 2.8	*– 1.1*	–11.8	*– 4.0*	3.2	*1.1*	3.8	*1.1*	11.4	7.5
Debentures, etc.	59.3	*23.1*	35.1	*11.8*	90.0	*29.7*	50.4	*14.5*	152.2	101.7
Total	178.5	*69.6*	198.0	*66.6*	185.6	*61.3*	218.9	*62.8*	584.6	365.7
Other investments:										
Mortgages and loans	0.8	*0.3*	– 0.8	*– 0.3*	2.9	*1.0*	2.2	*0.6*	10.9	8.7
Overseas government, etc., securities	3.7	*1.4*	– 0.4	*– 0.1*	– 0.6	*– 0.2*	– 2.7	*– 0.8*	4.1	6.7
Property unit trust units	—	—	27.2	*9.2*	23.0	*7.6*	17.8	*5.1*	18.7	1.0
Land, real property and ground rents	50.6	*19.8*	65.3	*22.0*	74.2	*24.5*	51.9	*14.9*	56.9	5.0
Other	0.9	*0.3*	0.1	—	1.7	*0.6*	0.9	*0.3*	2.5	1.7
Total	56.0	*21.8*	91.4	*30.8*	101.2	*33.4*	70.1	*20.1*	93.1	23.0
Total of investments	263.4	*102.7*	280.8	*94.5*	296.5	*97.9*	259.5	*74.4*	1,375.9	1,116.4
Short-term assets and liabilities:										
Cash in hand and with UK banks	– 7.8	*– 3.0*	1.7	*0.6*	1.4	*0.5*	21.4	*6.1*		
UK local authority bills and temporary money	0.1	—	12.0	*4.0*	13.0	*4.3*	23.1	*6.6*		
Other short-term assets	2.0	*0.8*	16.8	*5.7*	– 1.6	*– 0.5*	35.3	*10.1*		
Short-term liabilities§	– 1.3	*– 0.5*	–14.1	*– 4.7*	– 6.3	*– 2.1*	+9.5	*2.7*		
Total	– 7.0	*– 2.7*	16.4	*5.5*	6.5	*2.1*	89.2	*25.6*		
Total net investment	256.4	*100.0*	297.2	*100.0*	303.0	*100.0*	348.7	*100.0*		

† The figures for 1968 to 1970 have been revised to take account of a more accurate estimate for non-respondents. Including estimates for other private self administered pension funds not contributing to the quarterly inquiries. The figures exclude funds of co-operative societies which are estimated to be increasing by £9 million annually.

§ An increase is indicated by a minus sign, a decrease by a plus sign—nil or less than £.05 million.

TABLE 2. ASSETS HELD BY PRIVATE PENSION FUNDS, 1967 TO 1970†

£ million : *percentage of total in italics*

	1967 r		1968 r		1969 r		1970	
British government and government guaranteed securities	664.1	*17.1*	598.0	*12.9*	561.4	*12.6*	544.7	*11.8*
United Kingdom local authority securities	164.4	*4.2*	156.0	*3.4*	150.2	*3.4*	130.1	*2.8*
Total	828.5	*21.4*	753.9	*16.2*	711.6	*15.9*	674.8	*14.6*
Company securities :								
Ordinary shares	1,987.5	*51.2*	2,697.7	*58.0*	2,443.0	*54.7*	2,426.1	*52.7*
Preference shares	50.1	*1.3*	45.4	*1.0*	33.5	*0.7*	28.4	*0.6*
Debentures, etc.	631.5	*16.3*	675.0	*14.5*	688.9	*15.4*	720.6	*15.6*
Total	2,669.1	*68.8*	3,418.1	*73.5*	3,165.4	*70.8*	3,175.1	*68.9*
Other assets :								
Mortgages and loans	56.7	*1.5*	45.8	*1.0*	47.4	*1.1*	46.5	*1.0*
Overseas government, etc., securities	43.7	*1.1*	39.6	*0.9*	38.1	*0.9*	26.3	*0.6*
Property unit trust units	20.0	*0.5*	49.7	*1.1*	74.7	*1.7*	105.1	*2.3*
Land, real property and ground rents	166.8	*4.3*	245.7	*5.3*	321.8	*7.2*	381.7	*8.3*
Other	11.7	*0.3*	5.5	*0.1*	10.7	*0.2*	10.4	*0.2*
Total	299.0	*7.7*	386.3	*8.3*	492.7	*11.0*	570.0	*12.4*
Cash and other short-term assets net	82.4	*2.1*	89.4	*1.9*	98.3	*2.2*	187.1	*4.1*
Total assets	3,878.9	*100.0*	4,647.7	*100.0*	4,468.1	*100.0*	4,607.0	*100.0*

† The figures for 1967 to 1969 have been revised to take account of a more accurate estimate for non-respondents. The figures include estimates for other private self-administered pension funds not contributing to the annual inquiries, but exclude funds of co-operative societies which, it is estimated, amounted to £149 million in 1967, £154 million in 1968, £157 million in 1969, and £163 million in 1970.

million (5 per cent) below the figure for 1969, and represented only 14.6 per cent of total assets compared with 15.9 per cent in 1969. Holdings of company securities at the end of 1970 at £3,175 million were £10 million higher than at the end of 1969. Within this total, holdings of companies' ordinary shares fell slightly, additional net purchases during the year being more than offset by the tendency for ordinary share prices to be lower at the end of 1970 than a year earlier. This fall, however, was more than off-set by increases in holdings of debentures, etc. Holdings of mortgages and loans fell marginally; but holdings of property unit trust units rose substantially (by £30 million) and holdings of land, real property and ground rents rose by nearly a fifth (£60 million). By the end of 1970, holdings of cash and other short-term assets at £187 million were nearly double the end-1969 figure, and represented 4.1 per cent of total assets compared with 2.2 per cent at the end of 1969.

Notes and definitions

The statistics relate to the self-administered pension and superannuation funds of the private sector, including those of companies and non-profit making bodies. Respondents are asked to make returns covering financial assets of funds whose investment policy is managed from within the United Kingdom, including the funds of any subsidiary companies. Some undertakings operate two or more pension funds; such funds have been treated as single funds in the statistics.

Funds which operate primarily through insurance companies and funds of local authorities, public corporations or central government are not included. All funds with assets of £1 million or more have contributed to the inquiries, although not all of them have been able to give fully detailed statistics. About 1 in 4 of funds with assets of £0.1 million but less than £1 million contribute to the statistics, while funds with assets below £0.1 million are not approached. Estimates have been made of quarterly transactions of and assets held by funds not included in the sample or which did not respond.

All the funds were asked if possible to give their marketable securities at December 31 at current market values. Funds representing 8 per cent of the total assets reported in the inquiry gave figures on a basis other than market value. Nearly two-fifths of funds responding in the inquiry gave figures of assets for a date other than the calendar year (usually the end of March 1971).

Short term assets are those maturing within one year of originating date including loans payable at lender's option within one year of the date of issue. They include Treasury bills and local authority bills for temporary money. Balances due to stockbrokers on securities sold for future settlement have been deducted from short term assets.

Totals in the tables are not always equal to the sum of their components because of rounding.

General index of retail prices

THE Department of Employment announce that at July 20 the official index figure which measures changes in the average level of retail prices compared with the level at January 16, 1962 (taken as 100) was 155.2 compared with 154.3 at June 22. The principal changes in the index during the month were rises in the prices of milk, household coal and coke and newspapers, and falls in the prices of potatoes and tomatoes.

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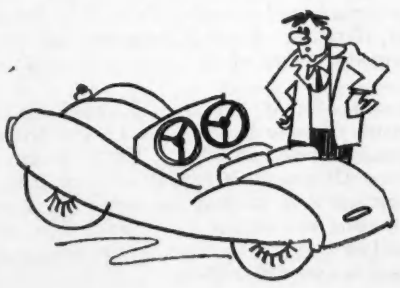

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Overseas construction contracts: the role of consulting engineers, architects and surveyors

A summary of the progress made by construction contractors in obtaining overseas business during the latest full financial year will, as previously, be contributed by the Department of the Environment and will be published this autumn. Last year the then Ministry of Public Building and Works provided a preliminary article (August 12, 1970) to stress the vital role played by consultants in earning overseas currency. This year the three main professional organisations have each contributed the following separate articles on their activities.

1. Consulting Engineers

A report by the Association of Consulting Engineers

THE Association of Consulting Engineers has recently published a book entitled 'Overseas Work Entrusted to Members During 1970'.* This illustrates the ubiquity and variety of the activities of British consulting engineers, emphasising that Britain continues to maintain her historical role of working and selling her skills abroad. Indeed, the 104 firms who are members of the Association of Consulting Engineers had work in hand at the beginning of this year which totalled in value some £2,032 million. The work was spread universally in 130 different countries and the earnings in professional work alone totalled some £21 million. Only 10 years ago members overseas work was valued at £680 million; in that short period the figure has thus been virtually trebled. In this article are told some of the stories surrounding a few of the many contracts successfully obtained by British enterprise.

New Zealand steel industry

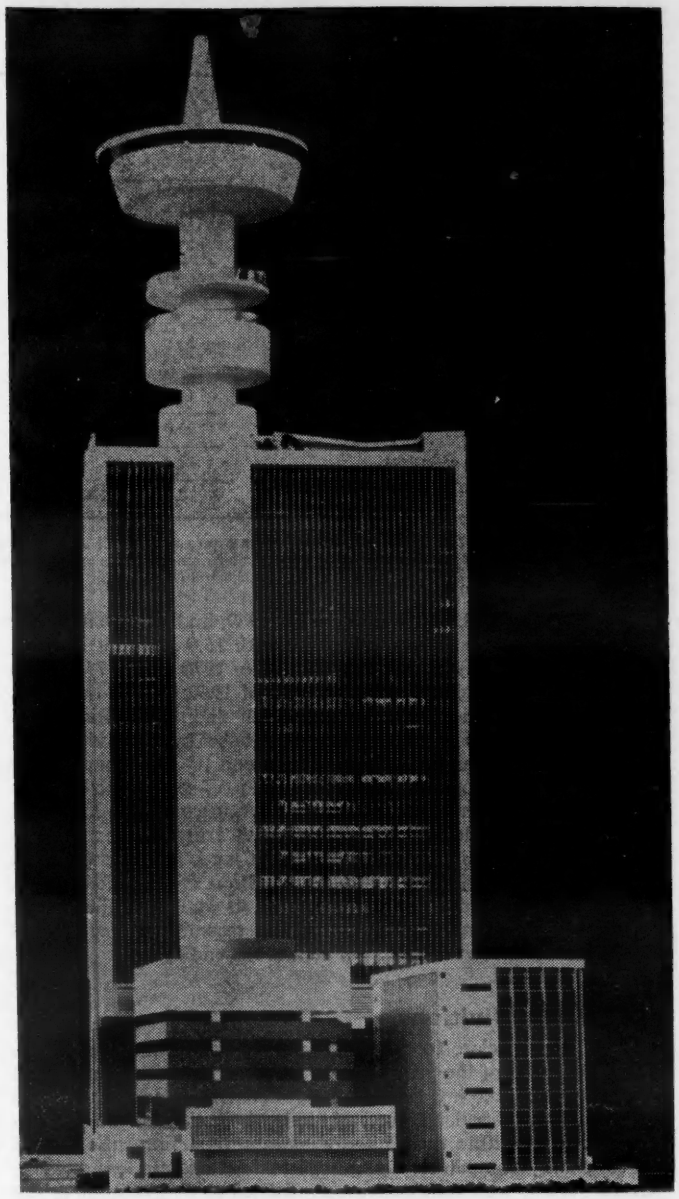
It was known for many years that there were extensive reserves of iron sands in New Zealand but the high titanium content of the ore prevented iron being made by conventional blast furnace techniques. At the request of the Government of New Zealand, special investigations were started by McLellan and Partners in association with W. S. Atkins & Partners to determine which of the recently developed methods of direct reduction of iron ores would enable a steel making industry based on local materials to be economically established. The work was successful and the recommendation for an integrated steel plant based on the SL/RN direct reduction process for the ore was accepted, and the firms were asked to design and build a plant of a nominal capacity of about 150,000 tons.

The site chosen was at Glenbrook, near Auckland. The iron sands are won by open cast working at the mine site near the Waikato river, some 10 miles from the steel plant. The ore is first concentrated in a plant on the mine site and then delivered by road to the steel plant where it is pelletised before being reduced in a kiln to produce a high metal content charge for feeding the two 40 ton steelmaking arc furnaces. The liquid steel from the furnaces is cast into billets in a 4-strand continuous casting plant. A galvanising line was included in the initial scheme and a pipe mill now forms part of the most recent developments at the steel works.

Water

Conservation of water ranks high amongst the priorities of the advanced countries and schemes for developing nations constitute a major part of civil engineers' work. Currently Scott Wilson Kirkpatrick & Partners are occupied with the design and supervision of water supply for Zaria in North Central State Nigeria. With the object of supplying to the town initially 5 million gallons of treated water per day, the works comprise an earth dam, treatment plant, pumping stations, service reservoirs with trunk and distribution mains. Provision is made for doubling the supply ultimately. The dam is two miles from Zaria at a point on the Galma River where there is a catchment area of 1,200 square miles and where a reservoir capacity of 2,000 million gallons can be obtained. The dam is an earthfill embankment about 45 feet high with an impervious clay core and rock protected side slopes. Reinforced concrete structures at the dam site include a draw off culvert, intake and pumping stations. The water is pumped to a treatment works nearby where provision is made for sedimentation, filtration, chemical treatment and onward pumping. The estimated value of the project is some £4 million.

Irrigation in Iraq provides Sir M. MacDonald and Partners with very considerable work. Close to Baghdad there is the Diyala project which will ultimately develop an area of 350,000 hectares on both banks of the River Diyala, the principal left bank tributary of the Tigris. The project is to increase the farming area as well as to control waterlogging and salinity. For the full development of the project a total of 14 contracts have been planned and the estimated cost of them is over £50 million.



Necom House, Lagos, designed for Nigerian External Telecommunications Ltd. by architects Nickson and Borys and Partners, Lagos. Oscar Faber and Partners were appointed to design the complex services installations and to undertake the structural design in association with Obi Obembe and Associates of Lagos.

* Price £2 from Association of Consulting Engineers, Abbey House, 2 Victoria Street SW1

A particularly interesting problem was presented to the same firm in the Lower Indus Basin in West Pakistan, combining drainage and irrigation. After the Sukpur Barrage was completed in 1933 the water table in the area rose to such an extent that zones in many parts had become waterlogged, the water getting increasingly salt so that the hitherto fertile land was becoming unproductive. The answer to the problem was to install 568 tube wells involving, for the first time ever, the use of glass reinforced plastic for the well casing and screens. The success of those wells has led to the adoption of the same design for 3,000 wells shortly to be installed under Sir M. MacDonald and Partners in East Pakistan. The same firm as a member of a consortium of British engineers, MRT Consulting Engineers, are engaged to survey 40,000 hectares of beef cattle ranching areas in Uganda. Here there are problems of the collecting, storage and reticulation of water involving not only the design of engineering systems but also the training of local personnel in how to operate them.

Ports and harbours

Water for other purposes involves Sir Bruce White Wolfe Barry and Partners, who are currently concerned with sea-going traffic. In Malaysia, for example, the firm have been responsible for five new deep water island berths at Butterworth on the north west coast; two of them designed for container traffic. The berths form a continuous wharf 893 metres long and 58 metres wide linked to a reclaimed area ashore by five bridges. The wharf is supported on 3,408 concrete piles, some of them 42 metres long. Service ducts are built into the deck for pipes and cables.

Each berth may be served by road or rail transport and provision has been made for several 6 ton portal cranes. The area behind is some 30 hectares in extent and was reclaimed by placing medium sand pumped ashore behind beams. The area is to be used for storage, container parks, administration and customs. The total value of the project is some M$47 million.

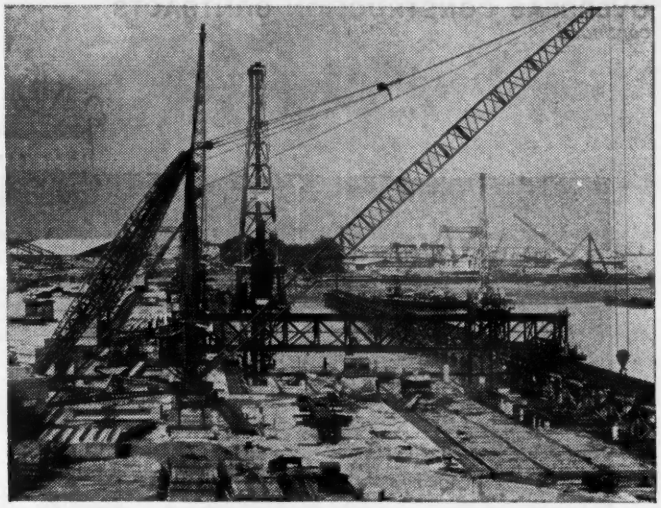
Sir Bruce White Wolfe Barry and Partners are also responsible for Singapore's new East Lagoon Container Port which will establish it as the pivotal container port for South East Asia. One 700 feet berth for feeder vessels has already been commissioned and 2,250 feet of wharf for the largest ocean going vessels is under construction. When fully loaded such vessels each will displace 75,000 tons and measure 950 feet overall. The first of them, now being built, is expected at Singapore in mid 1972. The wharf consists of a piled deck over a dredged slope and reclamation edge works. The total deck area, which is of composite prestressed and in situ reinforced concrete, will be 12.2 acres backed by 100 acres of reclaimed land on which container freight station facilities are to be built.

In Gambia, G. Maunsell and Partners are engaged on the development of the port of Bathurst with a new berth for ships and the erection of transit sheds, the installation of navigation aids and a jetty for fishing vessels, besides land reclamation. Maunsells are also at work on the Yundum airport with new Terminal Buildings and a Control Tower whilst in Malta they have prepared a feasibility study for the development of the Grand Harbour. The plan here involves a car ferry terminal, the extension of the deep water cargo berths, construction of container facilities and cruiser liner berths.

Sewage works under a golf course

In Mombasa, Kenya, Howard Humphreys and Sons carried out extensive offshore float tests at all stages of tide during the monsoon periods and produced a detailed contour map of the Island before the planning of the first phase of the sewerage and stormwater drainage scheme was started. As well as the subsidiary sewers the scheme included some 600 metres of trunk sewer of two metres diameter constructed in the coral to carry effluent from a new treatment works to the outfall pipe and thence to the edge of the reef into the main tidal stream for dispersal and dilution. The treatment works had to be constructed mostly below the ground level of a golf course at Ras Serani so that the works are practically inconspicuous. One difficult feature of the whole scheme was the laying of many of the subsidiary sewers in the narrow winding streets of the Old Town, the area most in need of sewage facilities.

The same firm are engaged in Tripoli on a £10 million sewage and treatment scheme with a flow of 27,300 cubic metres a day and catering for the population of 300,000. Here a very high standard of treatment is required so that the effluent can be used for the irrigation of crops. Howard Humphreys are also concerned with other schemes for Benghazi, Derna, Misurata, Sbeha and Tobruk, whilst dam constructions are proceeding at Freetown, Sierra Leone, Rochon in the Seychelles, and Bai Rese in Ghana.



Work on Singapore's new East Lagoon container port. Sir Bruce White Wolfe Barry and Partners are the consulting engineers for this project.

A submarine bridge

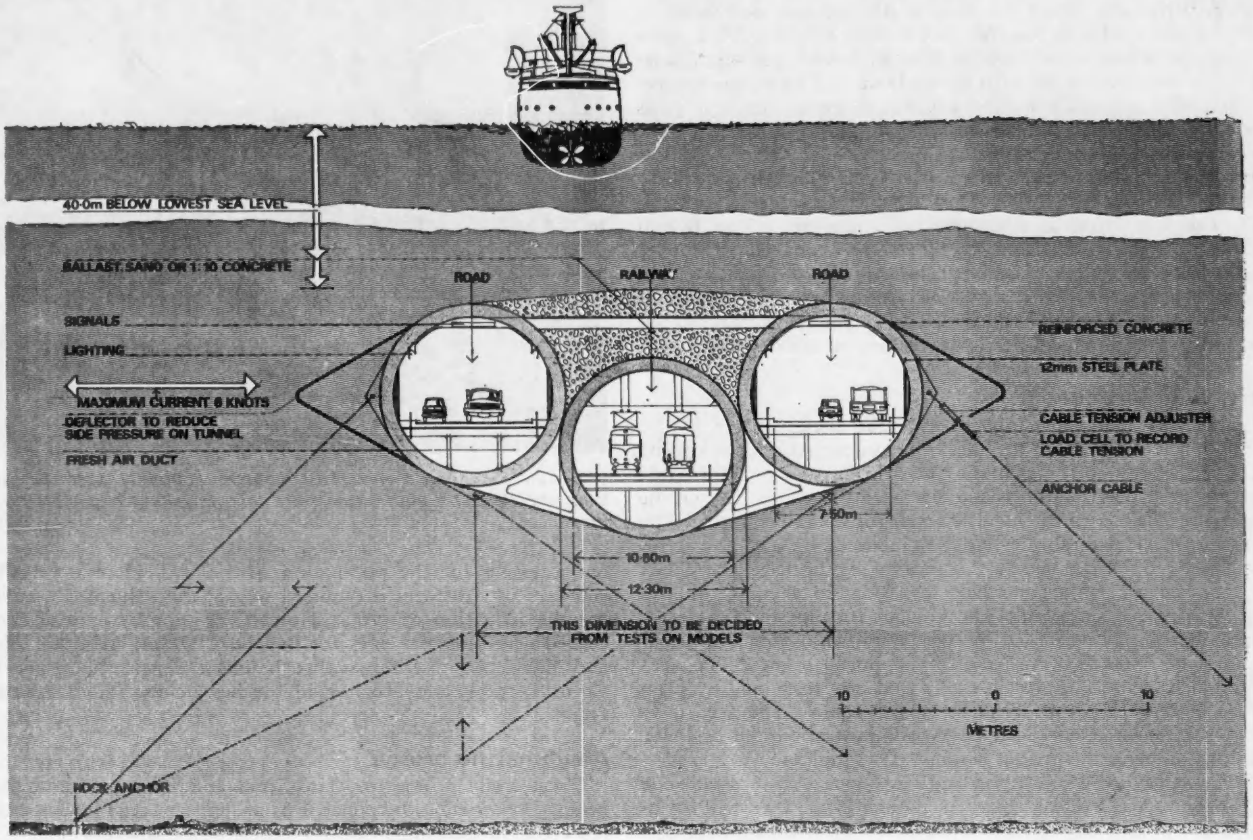
Great credit is due to Alan Grant and Partners for their ingenuity in evolving the concept of an underwater buoyant bridge for crossing the Strait of Messina to link Italy and Sicily. The plan was submitted to the Azienda Nazionale Autonoma delle Strada, the Italian Government's department responsible for main roads. The submission, which was in response to an international competition sponsored by the Italian Government, was awarded one of six equal first prizes of £10,000 each awarded for proposals for the crossing. The structure is truly an inverted bridge: the design buoyancy is resisted by a series of ties secured from the bridge to anchors in the sea bed. The major difference between the underwater bridge and the conventional surface bridge is that internal live loads decrease the stresses on the ties instead of increasing them. The bridge would be designed to withstand any combination of dead loads with imposed live loads, these being both internal and external due to the flow of water with fast and dangerous currents.

Power stations

Preece Cardew and Rider began an investigation for the New Zealand Electricity Department into the means of providing 500 MW of coal fired generating plant to augment all the power supplies of the North Island using coal from the Bulla Coal Field in the South Island. Reports on the project followed and in April 1968 the firm were appointed consultants for the overall design, procurement of plant and equipment and the co-ordination of site work. Early in 1970 the existence of natural gas was confirmed off New Zealand and the station at New Plymouth was accordingly re-designed for oil firing with the possibility of firing natural gas at a future date. The total cost of this project alone is likely to be to the order of £44 million—but there are many others as well.

The civil engineering and structural work for the power station and desalination plant at Abu Dhabi was entrusted to Charles Haswell and Partners and completed in March this year. This work costing £6 million involved a large quantity of dredged sand being used to bring the site up to the required level and all the main structures—the turbine house, reservoirs, sea water intake and the administration building—had to be supported on piles. The capacity of the power station is 70 megawatts and the desalination plant produces 6 million gallons of potable water a day.

(*continued on next page*)



Cross section of submerged tunnel bridge designed by by Alan Grant and Partners.

Cement works

Haswells have also been responsible for the development of the cement works at Claxton Bay in Trinidad, for export purposes. After the rotary kiln and its associated structures was completed a new marine terminal was required and this involved dredging 430,000 cubic yards of material to form an approach tunnel and the construction of a concrete jetty (on piles) with handling plant for both bagged and pumped cement. For the other end of its journey Haswells are engaged on similar terminals, in other parts of the Carribean, to receive the cement.

Roads and airports

From sea lanes to land roads and it is Rendel Palmer and Tritton who are engaged on 500 km. of major roads in Iran which they located and designed between 1966 and 1968 and which are now very shortly to be begun physically. The routes, which include 200 km. of the Pan Asian Highway, are mainly over fanglomeratic terrain and run along the south-western fringe of the central Great Desert. Many difficulties with sub-soils including areas of loess soils and of high salt concentration. Soil conditions were likewise difficult for the same firm in the construction in Fiji of the Suva to Nandi Highway where route crosses mangrove swamps and numerous steep-sided river valleys. Apart from poor soil conditions the annual rainfall is up to 200 inches in the more mountainous coastal areas. The whole project includes 9 million cubic yards of earthworks and the building of 70 bridges.

Amongst their other projects Rendel Palmer are also at work on the new Aqaba Airport in Jordan. This development includes the construction of 3,000 metres runway of flexible construction with 500 metres of surfaced stopway with turning loops at each end. Associated works include, besides access roads, bridges and car parks, major flood protection measures.

In Nigeria Scott Wilson Kirkpatrick and Partners are engaged on the Apapa Road project, consisting of an urban motorway to connect the mainland end of the new Eko Bridge directly with the docks and industrial areas and serving the growing suburbs of Lagos. The length of the road is 4 miles with 2, 3 and 4 lane carriageways designed to urban motorway standards. About 2½ miles of the road is elevated to clear service roads and two railway crossings at ground level and is estimated to cost £14 million.

Necom House, Lagos

At the beginning of this year, Oscar Faber & Partners, consulting engineers of St. Albans, Herts, were appointed to design the complex services installations for a £3 million telecommunications centre in Lagos, and also to undertake the structural design, in association with Obi Obembe & Associates of Lagos. The project is Necom House, which has been designed for Nigerian External Telecommunications Limited by architects Nickson and Borys & Partners, also of Lagos. The 140 metres high building, which will be the tallest building in Nigeria, comprises a 27-storey office tower block topped by a circular spire. The microwave antennae of the communications system are mounted on this spire and, at the highest level, there is a revolving restaurant. Beside the tower block, a seven-storey building houses the international telephone switching centre and other facilites for the communications system. The structural concept of the building has involved some ingenious engineering solutions to construct a building of this height on a site of loose sand overlying clay beside Lagos Harbour; and also to overcome the problems created by the ecentricity of the spire in relation to the tower block. D. A. R. Rowland & Partners of London are the quantity surveyors for the project, which is to start on site early next year.

The client's interests

Diversity is not confined to the firms collectively. One firm alone, W. S. Atkins, are currently engaged for instance with an industrial complex for construction of generation sets for Kraftwerk Union in Germany involving a factory, a sub-station, an amenity building and boiler house, besides the design of buildings for the Ko-Ri nuclear power station in Korea. In Ethiopia they

have recently been supervising the £4.8 million Legadadi dam project at the same time as the construction of the Ambo natural mineral water bottling plant in the same country. In the antipodes Atkins have been involved with a £2 million scheme of buildings for a cold reduction mill in Australia as well as the iron ore mining smelting plant and steelworks at Glenbrook, Auckland, New Zealand. All this besides such studies into aspects of iron and steel manufacturing industries in Algeria, Argentina, Denmark and Norway.

The principal duties of a consulting engineer in all the branches are to safeguard the interests of the client or organisation for whom he is working and to ensure a sound engineering job at a reasonable cost. It is because so many people, outside the world of construction, have but an abstract notion of what they do that their role calls for restatement. In the application of his skills abroad it is not only his ability, integrity and impartiality where the British consultant scores it is in his way of being able to get along with people despite language difficulties, local laws, bye-laws and regulations to say nothing of the sometimes conflicting interests and temperaments of the client and the contractor. Not only is it essential for him to work effectively with engineers of other countries but also with the specialists of other disciplines. It is this aspect of the integration and mutual understanding which must prevail amongst experts in all fields of construction that is most valuably served by such bodies as our own Association of Consulting Engineers, and in the wider context by the International Federation of Consulting Engineers, better known throughout the world as FIDIC.

2. Architects

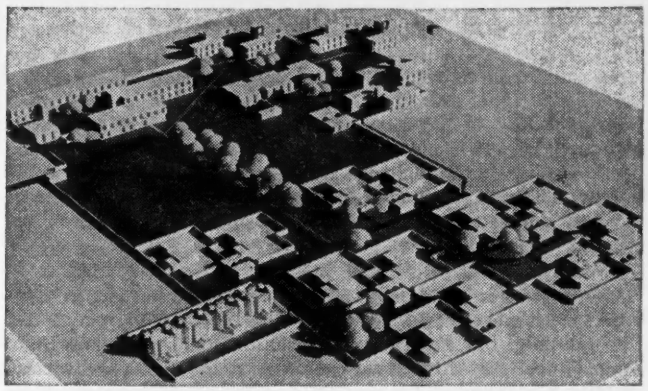
A report by the Royal Institute of British Architects

A PROVISIONAL estimate of new commissions obtained by British architects overseas in 1970 is of the order of £81 million with a similar figure for work entering the production drawing stage. A regional breakdown of new commissions shows Europe and the Mediterranean area leading with £22 million, Africa (sub-Sahara) and America each with £18 million, the British Isles (excluding the UK) £11 million, the Middle East and North Africa £9 million and India and the Far East £3 million.

These figures are based on a sample of practices and almost certainly underestimate the true level of overseas work. Even after allowing for some understatement, the value of commissions for work, particularly in Europe, would appear to be increasing quite rapidly. This is illustrated by the following commissions, almost all of which have been received this year. The Seymour Harris Partnership has been commissioned to carry out a redevelopment scheme in the centre of Nice, valued at approximately £8 million, to include a 200-bed hotel, shops, offices, flats, restaurants and an underground car park for 2,000 cars; and Emberton, Tardrew and Partners have been appointed to prepare a master plan for a ski resort at Obersee, Austria, a project valued at more than £10 million.

The overseas hospitals programme of Llewellyn-Davies, Weeks, Forestier-Walker and Bor includes the development plan for the University of Iceland's medical faculty and state hospital at Reykjavik, estimated at £5 million, and a 650-bed hospital at Leuven, Belgium valued at £9 million. Garnett, Cloughley, Blakemore and Associates were commissioned at the end of last year to carry out a £6 million holiday development at Tarragona, Spain to include two villages, a 200-300 bed hotel, 80 chalets, 750 villas and recreational amenities. The same firm are also carrying out a £3 million hotel and entertainment complex at Golden Sands, Cyprus. Building Design Partnership, which has recently opened an office in Rome, has been commissioned by the landowner's association in Calabria to study the impact of industry and tourism on the character of the region. BDP has also designed a bank valued at £2½ million in Lisbon.

An increasing number of housing developments, a field in which British expertise is well-known, are being carried out by British architects in Europe, particularly in France. For example, a £2 million housing contract at the new town of Cergy-Pontoise was recently awarded to Higgs & Hill Developments Ltd. with their architects Clive Pascall and Peter Watson as a result of a developer/architect competition involving some 30 contenders,



Model of the Agricultural Training College at Abu Haraz, Sudan, one of two colleges in Nile Province designed by Norman and Dawbarn. Building is to start shortly on the project which was largely financed by the World Bank.

A section of the model of the £2 million housing development for the new town of Cergy-Pontoise, France, designed by Clive Pascall and Peter Watson for Higgs and Hill Developments Ltd. The contract was awarded in competition against 30 contenders.

and work will start this year on the first stage of £1 million contract for housing at Hérault awarded jointly to Shankland, Cox & Associates and Phippen, Randall & Parkes.

Of the commissions obtained by British architects outside Europe, particular mention must be made of the £34 million contract recently awarded by the Libyan Government to Robert Matthew, Johnson-Marshall & Partners for the design and supervision of a project on the outskirts of Tripoli for the construction of 5,000 system-built houses including all site works, roads, water supplies and public utilities. The project is expected to take about seven years. Norman & Dawbarn's new commissions in the Sudan for technical and secondary schools are valued at about £4.6 million.

The Royal Institute of British Architects maintains an up-to-date index of practices which contains details and photographs of work carried out by British architects. It is therefore able to suggest firms suitable for overseas projects, and inquiries should be addressed to the Secretary, Clients' Bureau, RIBA, 66 Portland Place, London W1N 4AD (Tel. 01-580 5533).

3. Surveyors

A report by the Royal Institution of Chartered Surveyors

IN recent years the cost consultancy aspect of quantity surveying has aroused considerable interest in Europe and other countries outside the Commonwealth, and quantity surveyors have been employed quite extensively in these countries. Several firms have

(*continued on next page*)

OVERSEAS CONSTRUCTION CONTRACTS
continued

now established offices in France, Belgium, Holland, Germany and certain other European countries, as well as in the United States, the Middle and Far East. The number of such offices has increased in 1970-1. Additionally work is undertaken abroad for UK or American clients, often in association with British architects. There are, however, no exact figures on the value of overseas contracts on which quantity surveyors have been engaged.

Every effort is being made by The Royal Institution of Chartered Surveyors to promote the profession overseas. For example, the American construction industry is known to be in difficulty at the present time over rising costs, and the Institution has noted in the past year an increasing number of inquiries from the United States into British methods of cost planning and cost control and in the autumn of 1971 a small group of chartered quantity surveyors hopes to visit the United States to explain the profession's role to major public and private client developers and financiers, as well as to architects and universities.

Additionally a study is being made of the effect on the profession of possible UK entry into the European Economic Community where considerable opportunities may exist, particularly if, as a result of entry, British developers expand their activities into Europe.

The Royal Institution of Chartered Surveyors, Professional Recommendation Service, has details of members and firms with offices in overseas countries, or able to undertake work abroad. Inquiries should be addressed to 12 Great George Street, Parliament Square, London SW1P 3AD (Tel. 01-839 5600).

EXPORT

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Trade and Industry
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Release dates of economic statistics to be published in September

THIS notice is issued by the Central Statistical Office on behalf of the Government Statistical Service as a guide to the dates of publication of major economic series in September. The dates are those which Departments, or other organisations concerned, are aiming at, and would normally expect to meet. Exceptionally, there may be a delay resulting from unavoidable statistical problems of collection and compilation. Further inquiries about individual series should be addressed to the source named.

Publication date	Series	Method of release*	Source
September			
1 Wed.	London clearing banks monthly statement (August)	PN	CLCB
	Car and commercial vehicle production (July)	PN	DTI
2 Thurs.	UK Balance of payments 1971 (Pink Book)	—	CSO
	Weekly fuel statement	PN	DTI
	Bricks and cement production (July)	PN	Dept. of Environment
	Registered unemployed (final figures—August)	PN	D of Emp.
	Employment in production industries (July)	PN	D of Emp.
	Overtime and short-time working in manufacturing industries (July)	PN	D of Emp.
	Official currency reserves (August)	PN	Treasury
3 Fri.	Construction—output (2nd qtr)	PN	Dept. of Environment
	Consolidated Fund and National Loans Fund (August)	London Gazettte	Treasury
7 Tues.	UK Balance of Payments (2nd qtr)	PN	CSO
	Number of foreign visitors to Britain (July)	PN	DTI
	Hire purchase and other instalment credit business (July)	PN	DTI
	Retail trade (July)	PN	DTI
8 Wed.	Weekly fuel statement	PN	DTI
9 Thurs.	National Income and Expenditure 1971 (Blue Book)	—	CSO
10 Fri.	Crude steel production (August)	PN	BSC/BISPA
	Finished steel receipts consumption and stock changes (2nd qtr—final)	PN	DTI
	Building Societies receipts and loans (August)	PN	BSA
13 Mon.	Turnover of the motor trades (July)	PN	DTI
	Turnover of the catering trades (July)	PN	DTI
	United Kingdom overseas trade (August)	PN	DTI
	Capital Expenditure by the manufacturing, distributive and service industries (2nd qtr—prov.)	PN	DTI
	Manufacturers and distributors stocks (2nd qtr—prov.)	PN	DTI
	Money supply (2nd qtr)	Bulletin	Bank of England
	Domestic credit expansion (2nd qtr)	Bulletin	Bank of England
	Capital issues and redemptions (August)	Bulletin	Bank of England
14 Tues.	Weekly fuel statement	PN	DTI
15 Wed.	Index of industrial production (July)	PN	CSO
17 Fri.	Quarterly analysis of bank advances (mid-August)	PN	Bank of England
	Construction—new orders (July)	PN	Dept. of Environment
18 Sat.	Retail price index (August)	PN	D of Emp.
19 Sun.	National Savings monthly progress report (August)	PN	DNS
21 Tues.	Weekly fuel statement	PN	DTI
22 Wed.	National Income and Expenditure (2nd qtr—prov.)	PN	CSO
	New car registrations (August)	PN	Dept. of Environment
23 Thurs.	Electricity generation (August)	PN	DTI
	Wholesale price index numbers (August)	T and I	DTI
	Registered unemployed (prov.—September)	PN	Dept. of Employment
	Unfilled vacancies (September)	PN	Dept. of Employment
	Basic rates of wages and normal weekly hours (end August)	PN	Dept. of Employment
	Monthly index of average earnings (July)	PN	Dept. of Employment
27 Mon.	Engineering industries deliveries and orders (July)	PN	DTI
28 Tues.	Weekly fuel statement	PN	DTI
	London clearing banks monthly statement (September)	PN	CLCB
29 Wed.	Housing starts and completions (August)	PN	Dept. of Environment
	House improvement grants (August)	PN	Dept. of Environment
	Central Government borrowing requirement (August)	Fin. Stats.	CSO/Treasury
30 Thurs.	Stoppages of work due to industrial disputes (August)	Gazette	Dept. of Employment

* PN = Press Notice.

newtechnology

Number 49 August 1971 A supplement to *Trade and Industry*

Optical Processing for Better Picture Intelligibility

by J. D. Redman

Atomic Weapons Research Establishment, Aldermaston

Just as an electronic signal can be analysed into its constituent temporal frequencies, so a pictorial scene can be analysed into constituent spatial frequencies, and it follows therefore that a picture can be processed to improve its intelligibility by optical methods. This article reviews some of the techniques employed for the purpose by the Optics Branch of AWRE's Applied Physics Division.

In the AWRE optical-processing system the picture—usually in the form of a transparency—is illuminated by a collimated laser beam, and the light it diffracts is collected by a converging lens. This very simple optical system has the remarkable property of being able to perform the operation of Fourier transformation: if the transparency is placed at the front focus of the lens, its Fourier transform is produced at the back focus. The distribution of light in the back focal plane of the lens can be regarded as a map of the spatial frequency content of the original picture, and predetermined frequencies can hence be selectively removed by placing obstacles in this plane. For example, low frequencies can be removed by putting an opaque spot in the centre of the Fourier transform plane, and high frequencies can be eliminated by inserting a plate containing a hole with a radius corresponding to the highest spatial frequency to be left in the picture. After filtering, the picture is viewed by means of a re-imaging lens, as shown in Figure 1. The photographs in Figure 2 exemplify the results obtained: low-pass filtering (the filtering operations are termed low-pass and high-pass by analogy with electronics) has removed the dots from the halftone, and in the other photograph high-pass filtering has taken out the low frequencies and emphasised the highlights.

Figure 1. Basic optical system used in processing.

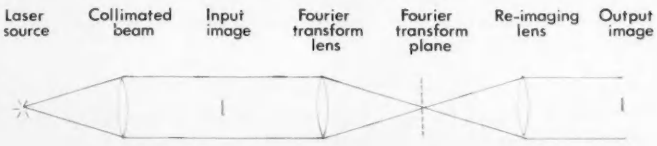


Figure 2. Amplitude filtering. Left: low-pass. Right: high-pass.

Inherently, an optical filter has a much sharper cut-off than its electronic counterpart. Moreover, whereas, in the case of the electronic filter, the input is a function of one variable (time), in optics the input may be a function of two variables—the spatial co-ordinates. Consequently optics can be used to perform filtering operations for which there are no electronic analogues. One example—directional filtering to remove lines oriented in a particular direction—is illustrated in Figure 3.

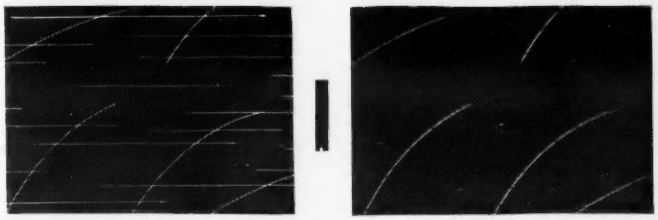


Figure 3. Directional filtering. Left: input. Centre: filter. Right: output.

This result was obtained by inserting into the transform plane an opaque mask (its shape is shown in the figure) arranged to point in a direction at right angles to the lines required to be removed. Optical processing can therefore be used to clean up a picture by eliminating unwanted features. Optics can, however, be employed also for much more sophisticated applications: for example, to deblur pictures—provided that the nature of the blur is known or can be estimated.

The blurring process can be looked at as the convolution of an ideal picture with a blurring function: it is as though the

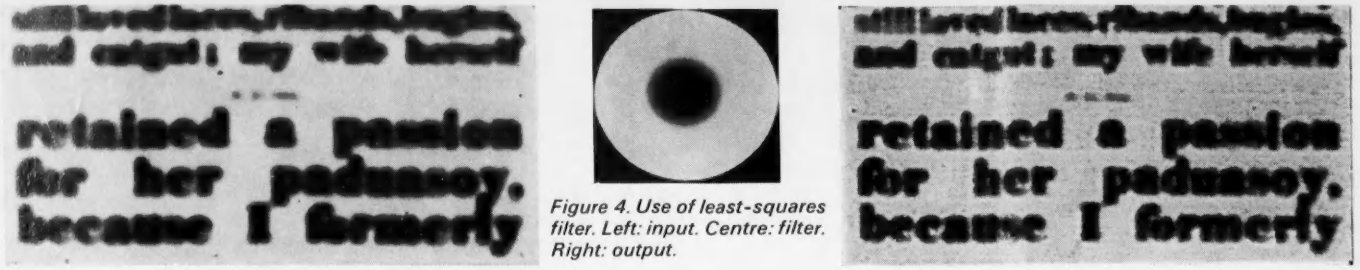


Figure 4. Use of least-squares filter. Left: input. Centre: filter. Right: output.

ideal picture had been scanned by a scanner of poor impulse response. Happily for our purpose, convolution in the space domain is equivalent to multiplication in the Fourier domain. In other words, the blurring could be considered as having been achieved by transforming the ideal picture into the Fourier domain, multiplying it by the transform of the blurring function, and then retransforming the final result. Clearly, therefore, if we know the transform of the blurring function, and can multiply by its inverse, the picture can, in principle, be deblurred. As always, however, things are never quite so simple in practice. There may, for example, be zeros in the transform of the blurred picture (ie, certain frequencies may be irretrievably lost), and care must be taken not to enhance noise. Consequently the basic inverse filter normally has to be extensively modified to achieve any significant improvement in the usefulness of a picture. Figure 4 illustrates the effect of using a filter which takes noise into account.

In this example only amplitude filtering was required (see Figure 5). Often, however, it is necessary—for instance, in the correction of linear smear—to use a filter which also modifies the phase of the light passing through it. Phase filters may be produced directly by depositing thin films on to optically flat substrates, but this technique is practicable only in very simple cases. Where more complicated filters are required, a holographic technique may be employed. The simplest holographic filter is used to perform the cross-correlation operation. The

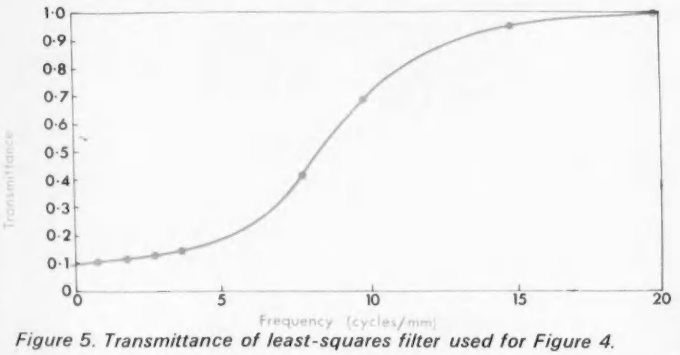
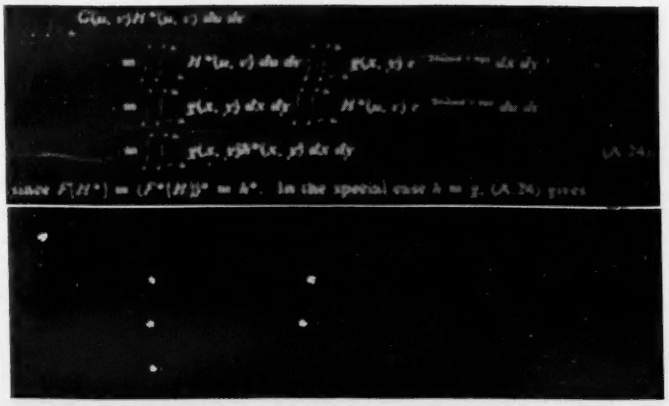


Figure 5. Transmittance of least-squares filter used for Figure 4.

Figure 6. Cross-correlation. The dots in the lower part of the field correspond to the positions of the double integral signs in the input (top).



AWRE procedure is as follows. It we want to cross-correlate two functions, we make a hologram of the Fourier transform of the first and illuminate it with the Fourier transform of the second (applying the familiar optical system shown in Figure 1), the cross-correlation function being then displayed in the final image plane. In effect the hologram serves as a filter which multiplies the Fourier transform of one function by the complex conjugate of the Fourier transform of the other. The final imaging lens retransforms the result, giving an output such as that illustrated in Figure 6.

In the absence of noise, the general deblurring problem can be solved by means of an inverse filter—one whose amplitude transmittance is inversely proportional to the Fourier transform of the blurring function: in other words, if the Fourier transform of the blurring function is H, where H may be complex, a filter with an amplitude transmittance of $1/H$ (or, in other terms, $H^*/(HH^*)$ or $H^*/|H|^2$ where H^* is the complex conjugate of H) is required. The problem may, therefore, be reduced to that of producing two filters to be used in series. One has to have transmittance H^*, and the other transmittance $1/|H|^2$. The second filter, which is entirely real, may be achieved merely by exposing a photographic emulsion to the Fourier transform of the blurring function, and developing in such a way that the amplitude transmittance is inversely proportional to intensity. The H^* component is produced holographically, as described earlier. An example of holographic deblurring is shown in Figure 7.

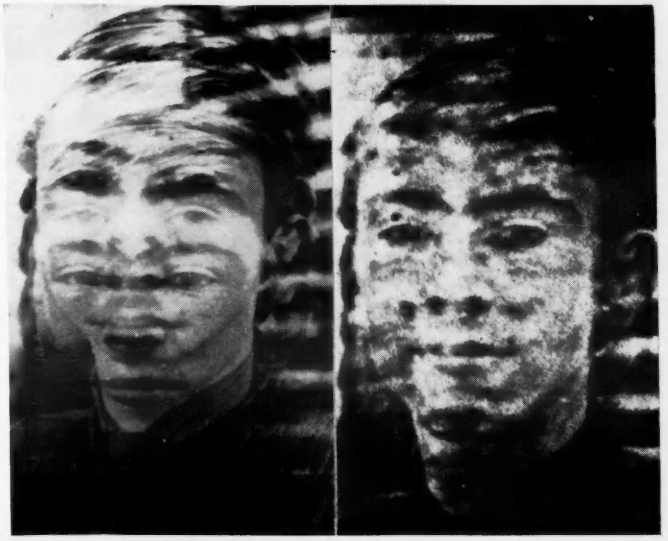


Figure 7. Holographic deblurring.

Optical-processing methods are obviously less versatile than digital ones, but, where they *are* applicable, they enable large volumes of data to be handled quickly and economically. Many of the practical difficulties which in the past have prevented them from being widely employed have now been overcome, and interest in optics is reviving.

More information: Mr. J. D. Redman, Applied Physics Division, Atomic Weapons Research Establishment, Aldermaston, Reading RG7 4PR. Tel: Tadley 4111.

A New One-Stage Pseudo-Grignard Reaction

by D. H. Richards

Explosives Research and Development Establishment, Waltham Abbey

The Grignard reaction—Victor Grignard was awarded the Nobel Prize for its discovery in 1912—is a two-step process, involving reacting an alkyl or aryl halide (RX) with magnesium in ether to form the Grignard reagent RMgX, and then reacting the reagent with aldehydes, ketones or esters to produce a wide variety of alcohols. The process is one of the most important in synthetic organic chemistry, and has found wide application in the pharmaceutical and fine-chemical fields, and the Explosives Research and Development Establishment's discovery (during an investigation exploring organometallic routes to new copolymers and small molecules) of a new technique for carrying out Grignard-type reactions in a simple one-stage operation, and with very high product yields, is hence a significant development. Patents covering the process have been filed, and information on this aspect can be obtained from the National Research Development Corporation.

In a typical reaction, a solution of the carbonyl compound and the organohalide is prepared in tetrahydrofuran, with the halide in slight excess (~10 per cent) of that required by the stoichiometry of the reaction. This solution is then slowly added to a stirred suspension of lithium pieces in tetrahydrofuran, with the reaction vessel blanketed by an inert gas, and a highly exothermic reaction ensues. The rate of the reaction is controlled by the rate at which the reagents are added (the addition takes place over 1-2 hours, by which time the reaction is essentially complete), and the temperature is maintained at ambient or below. On completion of the reaction, the excess lithium pellets are filtered off, and the solvent is removed for re-use by vacuum distillation. Hydrolysis of the residue generally results in a phase separation, and the alcohol—comprising the upper layer—can then be washed and dried; if there is no phase separation, the alcohol is extracted by ether.

As the table shows, the method is of wide scope. Alkyl and aryl bromides have been used the most extensively, but chlorides and iodides also undergo the reaction. The process is applicable equally to aldeyhydes, ketones and esters, gives substantially higher yields than those achieved by the conventional Grignard reaction, and, in addition to offering the advantage of being a one-stage process, has an easier work-up procedure. The temperature of reaction does not have a great effect on the yield of product (and does not therefore require careful control during synthesis), and, although for optimum yield a moderate excess of alkyl halide has to be present, the concentration of the reactants is not a significant factor in determining the conversion. Nor does the size of the lithium pellets greatly influence the efficiency of the process—in fact, the yields listed in the table were obtained with systems where the lithium pellets were cut from conventional lithium rod by means of scissors.

The reaction appears to progress via the *in situ* conversion of the alkyl halide into the alkyl lithium and the rapid attack of this reagent on the carbonyl compound: eg for an aldehyde,

$$RX + 2\,Li \rightarrow R^-Li^+ + LiX$$
$$R^-Li^+ + R^1CHO \rightarrow RR^1CHO^-Li^+$$

It was hoped that it would be possible to substitute sodium for the more expensive lithium, but no reaction took place when the attempt was made—due apparently to the fact that the sodium halide generated during the initial reaction is very insoluble in the reaction medium and is deposited on the surface of the sodium metal, thus inhibiting further reaction. Lithium halide, being more covalent, is much more soluble in tetrahydrofuran, and hence does not inhibit in this way. Although lithium is therefore necessary for the reaction, it does not follow that the cost of the operation is high. Lithium halide is the only inorganic material present, and can easily be recovered by distillation of the aqueous layer and either electrolysing on site or returning to the supplier for processing. Similarly the solvent can be recovered for further use by distillation at the pre-hydrolysis stage, and can be used directly without further purification. Since yields are high and the reaction time is short, the new process therefore offers a cheap way of manufacturing a variety of organic alcohols.

More information: Dr. D. H. Richards, Non-Metallic Materials Branch, Explosives Research and Development Establishment, Waltham Abbey, Essex. Tel: Waltham Cross 23688.

Dr. R. S. R. Parker, National Research Development Corporation, Kingsgate House, 66 Victoria Street, London, S.W.1. Tel: 01-828 3400, ext 379.

Yields from Lithium and Organic Halides

Carbonyl compound	Halide	Product	% Yield obtained	% Yield from Grignard method
Paraformaldehyde	n-hexyl bromide	1-heptanol	72	—
Paraformaldehyde	n-dodecyl bromide	1-tridecanol	80	—
Propionaldehyde	ethyl bromide	3-pentanol	90	—
Propionaldehyde	methyl iodide	2-butanol	51	47
n-Hexaldehyde	methyl bromide	2-heptanol	70	—
Acetaldehyde	n-pentyl bromide	2-heptanol	39	—
n-Butyraldehyde	n-pentyl bromide	4-nonanol	73	73
n-Butyraldehyde	n-butyl bromide	4-octanol	73	—
n-Butyraldehyde	n-propyl bromide	4-heptanol	89	—
Acrolein	ethyl bromide	hept-1-en-3-ol	90	—
Methacrolein	n-butyl bromide	2-methyl-hept-1-3n-3-ol	93	—
Benzaldehyde	bromobenzene	benzhydrol	95	55
Benzaldehyde	chlorobenzene	benzhydrol	100	—
Benzaldehyde	iodobenzene	benzhydrol	64	—
Acetone	bromobenzene	dimethylphenyl carbinol	34	—
Mesityl oxide	bromobenzene	1, 3-dimethyl-1-phenylbutadiene	32	40
		1, 1-dimethyl-3-phenylbutadiene	36	total yield
Benzaldehyde	allyl bromide	allyl phenyl carbinol	71	Poor
Methyl benzoate	methyl iodide	dimethylphenyl carbinol	74	78
Methyl methacrylate	n-butyl bromide	2-methyl-3-butyl-hept-1-3n-3-ol	89	15–20
Benzaldehyde	cyclohexyl chloride	cyclohexylphenyl carbinol	60	—
Benzaldehyde	cyclohexyl bromide	cyclohexylphenyl carbinol	72	—
di-n-butyl ketone	n-butyl bromide	tri-n-butyl carbinol	91	—
n-Decylaldehyde	n-decyl bromide	eicosane-10-ol	49–50	—
Ethyl formate	n-decyl bromide	heneicosane-11-ol	60+	—
Ethyl formate	n-butyl bromide	nonanol-5	91	—

Applied Research in the Rheology of Non-Newtonian Fluids at Warren Spring Laboratory

This article gives a general outline of the work on the rheology of non-Newtonian fluids being conducted at Warren Spring Laboratory. Further articles, describing specific aspects of this work, will appear in the next issue of *New Technology*. More information on WSL rheological know-how and services can be obtained from: Dr. D. C.-H. Cheng, Materials Handling Division, Warren Spring Laboratory, Gunnels Wood Road, Stevenage (Tel: Stevenage 3388).

Rheology—'the science of flow of matter; the critical study of elasticity, viscosity and plasticity'—is a discipline of obvious importance to the chemical and process industries, particularly where the fluids being handled are non-Newtonian.

Non-Newtonian? . . . Newton defined viscosity as the ratio of shear stress (force per unit area) to shear rate (velocity gradient) in the flow of a fluid, and in the case of gases and liquids—Newtonian fluids—viscosity is constant with respect to shear rate. There exists, however, a wide range of fluid-like materials—the so-called non-Newtonian fluids—which do not behave in this way: their viscosity is not constant with respect to shear rate and/or their flow behaviour cannot be fully described in terms of viscosity alone. Non-Newtonian fluids—polymer melts and solutions, biological fluids, paints, printing inks, greases and clay suspensions, and certain foodstuffs are examples—can be classified (1) as pseudo-plastic or as dilatant (depending on whether viscosity decreases or increases with shear rate), (2) as thixotropic (viscosity varies with time, although the shear rate remains constant), or (3) as visco-elastic (the fluid exhibits elastic behaviour). Briefly, if, as in the case of a high-polymer melt or solution, the fluid consists of or contains high-molecular-weight molecules, it will exhibit elastic as well as viscous behaviour: it will be visco-elastic. The pseudo-plastic, dilatant and thixotropic types of non-Newtonian fluid comprise dispersions or mixtures of solid particles (or of droplets of liquid) in a suspending liquid medium. If the particles or droplets are small enough for the electrochemical interaction between them to dominate over gravitational forces, they will remain in suspension, and, even if the fluid is thixotropic, the recovery times may be such as to enable it to be treated as purely viscous under continuous-flow conditions. If the particles are sieve-size or larger, the gravitational forces will be dominant and the particles will tend to sediment; flow behaviour is then determined by the interplay between the gravitational pull and the drag and lift resulting from the interaction between the particle motion and the flow of the suspending liquid.

The three types of non-Newtonian fluid differ profoundly in their flow behaviour therefore, and consequently they pose problems to the chemical and processing industries—problems which loom ever larger as more and more products are developed and the need to modernise and automate manufacturing systems in such traditional industries as food and ceramics becomes more compelling. In this context, data on rheological properties can be used not only to characterise the fluid from the processing point of view, but also as a tool in quality control and in optimising the design and operation of the processing plant. Rheological data can shed light on such 'practical' properties as the texture of foodstuffs and the spreading behaviour of paints and inks; in some cases, they can relate the properties of an intermediate product directly to the quality of the final product; and, not least, they can provide a correlation with plant performance which can be used as a means of process control and of designing new 'flow' equipment (eg, pipelines, pumps, agitators, extruders, heat exchangers) on the basis of laboratory tests. They have hence become virtually indispensable to the chemist, process engineer and plant designer. Determination of this information is, however, a specialist task, requiring experienced staff and considerable facilities . . . And it is here that the Materials Handling Division of Warren Spring Laboratory comes into the picture. Set up in 1962 to deal with the problems of storing, transporting, feeding and mixing slurries, pastes, powders and granules in a factory, the Division has two sections, one concerned with the mechanics of bulk solids, the other with non-Newtonian materials. Discussion of the bulk solids section will be postponed to a future issue of *New Technology*: in this article we will restrict ourselves to reviewing the services, facilities and technical and economic advantages which the rheological section offers industry.

WSL's basic research on applied rheology has two main aims: to establish fundamental data on the properties of non-Newtonian materials and on the performance of handling equipment and plant; and to apply this knowledge in the evaluation of techniques and design procedures, and in the development of equipment and plant, relating directly to specific industrial needs. The three constituents of the research programme—the rheological properties of non-Newtonian materials; research on unit operations and the performance of process equipment; and the development of instrumentation for process plant—are described below.

1 Rheological properties of non-Newtonian materials

Research on determination of **viscosity** has centred on purely viscous fluids; ie, fluids with negligible elastic and time-dependent properties, whose viscosity can be determined by the shear-stress/shear-rate relationship alone. Mathematical formulae permitting the derivation of various parameters have been established for all viscometric flows (including, in some cases, those involving non-isothermal conditions), and, since in practice viscometric flows are limited by end effects, wall slippage or the onset of secondary or turbulent flow conditions, these aspects have also been studied. The wide range of materials covered by this work necessitates the use of a variety of viscometers, including a specially developed low-viscosity tube viscometer, the Davenport Extrusion Rheometer, the Ferranti Portable Viscometer, the Contraves Rheomat-15 Viscometer, the Ferranti-Shirley Cone-Plate Viscometer, and the Sangamo Weissenberg Rheogoniometer.

WSL's work on **thixotropy** was prompted by the property's importance in the production of paints, printing inks, greases, clay slurries, pigment pastes, and other industrial materials. The Laboratory's research in this field is continuing on the basis of a concept explaining thixotropic behaviour in terms of the structure's breaking down on shearing and building up on rest.

The properties of **pastes** are also being investigated—initially to provide a reference point for subsequent work on unit operations involving such fluids. The first aim is development of a theoretical framework for experimental measurement.

2 Research on unit operations

Pipeline transport is the simplest type of unit operation. The principles of design of pipelines for Newtonian fluids are well established, but not until WSL's work was a *comprehensive*

design procedure evolved for non-Newtonian materials. The WSL procedures (which will form the subject of an article in next month's *New Technology* were developed after a combination of fundamental studies, generalisation from published information, and experimental work on a pipeline rig.

In another aspect of operations research, WSL—with the approval of potential users, the active co-operation of pump manufacturers and advice from the trade and research associations—has embarked upon a programme of work aimed at providing information enabling the most suitable type and size of **metering pump** to be selected for use in feeding a particular non-Newtonian fluid. The intention is to establish performance data for a range of typical pumps (eg, peristaltic, plunger, diaphragm and screw), and so correlate pump characteristics with the rheological parameters of the pumpable fluids. A similar exercise is under way (1) to shed light on the performance of the **industrial mixers** now being used for mixing non-Newtonian fluids and pastes, and (2) to develop new forms of mixer.

3 Research on process-plant instrumentation

The trend towards continuous operation and automation has focused attention on the lack of suitable process-plant instruments. At WSL two types of instrumentation are at present under investigation: flow meters and process viscometers.

The work on **flow meters**—the tests were conducted on meters of orifice (up to $1\frac{1}{2}$ in. in size), turbine and variable-area type, handling a range of bentonite and lapronite slurries and a suspension of starch particles—has shown that, hydrodynamically, they behave the same with non-Newtonian as with Newtonian fluids, though mechanical effects, such as jamming of the turbines or retention of the float, limit some of the meter's usefulness for non-Newtonian applications. Since development of a satisfactory procedure for continuous paste mixing is dependent on the development of a suitable method of flow measurement, work is also in progress to produce a meter suitable for installation in a 4-in. pipe forming part of a continuous mixing rig.

The **process viscometers** at present commercially available were designed to handle Newtonian fluids, which can be specified by one parameter—viscosity; and they therefore operate at a single flow rate or rotational speed. In general, however, multi-point measurements are necessary where the fluid is non-Newtonian: hence WSL's development work on process viscometers. Preliminary research to gather rheological and other relevant data on the fluids and the pertinent processes revealed the need for an automatic viscometer capable of continuous measurement on a process stream. Two were subsequently developed: one, a modified Rheomat-15 viscometer, will be described in next month's issue of *New Technology*; the other—an elastico-viscometer—operates on the oscillatory mode, and enables the elastic property of a fluid to be determined in addition to its viscosity.

Sponsored Research

In the rheological field, as in all the others in which it is involved, Warren Spring Laboratory's aim is to apply the results of its research directly to industrial practice, and, with this aim in mind, it undertakes contract work on behalf of firms encountering difficulties with non-Newtonian fluids. Companies wishing to avail themselves of this service should contact the Laboratory (either directly or via the nearest Department of Trade and Industry regional office or the local Industrial Liaison Officer), so that an agreed programme of work can be drawn up. The whole research can be conducted by the Laboratory, or, alternatively, arrangements can be made for the company's staff to work alongside the Laboratory's, or even to work alone using the Laboratory's facilities, but, whatever the arrangement, the closest liaison is maintained with the sponsor, enabling progress to be reviewed and, if necessary, aims redefined and methods adjusted. To date, such sponsored projects have been concerned solely with specific unit operations, but the increasing range of its basic research programme is rapidly placing WSL in a position also to tackle assignments entailing renovation or redesign of an entire process.

Another of Warren Spring's rheological services—the organisation of training courses for companies requiring them—will be described in the next issue of *New Technology*.

Some case histories

WSL has conducted sponsored projects on behalf of firms in such widely different fields as the confectionery, pharmaceutical, engineering, oil, industrial-waste, paint, photographic and electrical industries.

Some examples:

★ To overcome difficulties due to sagging of a polysulphide sealant used in the civil-engineering and building industry, WSL employed the Weissenberg rheogoniometer to obtain the basic rheological data needed to correlate the sagging behaviour of alternative materials, and then compared these data with those established using the Brookfield Synchrolectric viscometer as a factory control instrument.

★ Using a Brabender Plastograph, WSL determined the rheological properties of a mixture of coke particles, pitch and other minor additives at elevated temperatures, and showed that a critical composition existed at which the amount of pitch present was just sufficient to coat all the particles, and which would hence ensure optimum quality in the final product.

★ Using a Ferranti-Shirley cone-and-plate viscometer, WSL established rheological data for a rubber-latex/solid-fillers/thickener/protective-additives dispersion, which, taken in conjunction with other relevant physical properties, enabled the characteristics of the dispersion to be correlated with its performance. The exercise revealed a relationship between optimum performance and high viscosity, and enabled the company to maintain product quality by adjusting the thickener concentration.

★ The rheological behaviour of various blends of butter under steady-state shearing in the Ferranti-Shirley cone-and-plate viscometer was studied as a function of the formation of 'gritty blends'. The work showed that grits occurred as a result of differences in rheological properties, and, it not only provided a solution to the problem, but also led to the development of a new type of mixer applicable to any paste-like material.

★ The dynamic shear property of 'bouncing putty' (a high-molecular-weight silicon polymer) has been determined over the range 0.5 to 10 Hz and -20 to $+55$°C to supply data for the possible design of anti-vibration devices for high-speed rolling stock.

★ Using the Davenport extrusion rheometer, a range of solid/liquid dispersions employed as additives in the cable-making industry were subjected to viscometric measurements to determine the relative performance of the various dispensing systems proposed for use in pre-packing the materials to facilitate loading of the mixing machines.

★ The design of a mixing unit for production of an air-free metal-powder paste demanded that the shearing action of the pump recirculating the mixture be lower than the critical value preventing degradation of the solid particles present in the paste. WSL established this critical value, so enabling determination of the size of pump required.

(continued on next page)

* An acid/flavour/colouring additive dispersed in a syrup/pectin solution employed in continuous manufacture of pectin jellies was maintained at the required distribution by using a pipe section filled with spheres as an in-line mixer.

* Various studies of agitation in chemical reactors have been conducted to obtain scale-up data enabling the power requirement of full-scale plants to be established from pilot-plant results.

Two other examples of agitation and mixing investigations:

The yield from a process involving precipitation of an organic chemical by the reaction of liquid and powdered materials was increased greatly by optimising the speed of agitation and by appropriately modifying the geometry of the agitator.

After various trial-and-error attempts to increase the uniformity of continuous mixing achieved by high-speed extrusion screw pumps, a company turned to WSL. The Laboratory conducted a mathematical analysis of the mixer, which showed that the performance of the production screw could be improved by using shallow screw depths, but that even better results would be achieved by using an annular mixer.

B.C.S./I.E.E. Course in Electrical Measurements

The British Calibration Service is co-sponsoring a Vacation School in Electrical Measurement Practice to be held at York University from September 19 to October 1, 1971. Organised by the Institution of Electrical Engineers, and the third in a series which started in 1968, the School will cover the best modern practices in making accurate electrical measurements at dc and low frequencies (up to 100 kHz). The course should prove of particular interest to those engaged in the operation of measurement laboratories and test and calibration facilities, and to those involved in teaching electrical measurement, and is designed to suit both professional engineers and those interested in the field who are without formal qualifications beyond, say, ONC.

More information: Miss J. M. Edwards, Divisional Secretary, Science Education and Management Division, I.E.E., Savoy Place, London, WC2R 0BL.

British Calibration Service: Approved Laboratories

A ready-reference list of BCS-approved laboratories was published in *New Technology* Number 45 (April 1971). Since then, the following additional laboratories have received BCS approval:

Electrical (dc and lf)
Calibration Laboratory,
Bennett Brown (Technivision) Ltd.,
No. 9 The Trading Estate,
Station Approach, Fleet, Aldershot, Hants.
Mr. J. G. Baggs,
Fleet 21666.

Electrical (dc and lf)
Standards Laboratory,
Calibration Systems Ltd.,
Blackwater Station Estate, Camberley, Surrey.
Mr. J. D. Cook,
Camberley 28121.

Electrical (dc and lf)
Electrical Measurements Laboratory,
Naval Ordnance Quality Assurance Establishment,
Janson Street, Sheffield, S9 2LJ.
Mr. R. R. Butters,
Sheffield 49261, ext 7 or 10.

In addition, BCS approval of the **Standards Laboratory, Wayne Kerr Co. Ltd.,** has been extended to cover hf measurements.

The following changes in telephone numbers have been notified:

Winfrith Mechanical Standards Laboratory,
Dorchester 3111.

Cranfield Metrology Laboratory,
Bedford 51551.

news

Computer evaluation of a range of alternatives in a design situation . . .

Facilities at DTI's Computer-Aided Design Centre, Cambridge, were used recently to perform an exercise in which a sophisticated computer model was used by an architect for evaluating a range of alternatives in a design situation. The model used was the LUBFS Environmental Model, developed at the Centre for Land Use and Built Form Studies by Dean Hawkes and Richard Stibbs, and the architect user was Georges Soukiassan, Assistant Chief of Building Management at the World Health Organisation in Geneva. Computer file storage facilities were donated by Applied Research of Cambridge.

The LUBFS Environmental Model—a computer system constructed for use as a research tool—collates a series of established environmental design processes by relating them to a single data structure capable of accepting data describing virtually any building. The 'environment', as simulated by the model, is the visual, thermal and acoustical description of conditions within a building.

The range of analysis in the exercise was:

1. Daylight-factor calculation, allowing evaluation of any side-lit room with windows in any number of walls.
2. Artificial-lighting installation design, enabling the number of fittings required and the total wattage to be calculated from a basic fitting specification and the required level of illumination.
3. Thermal-performance evaluation, which calculates heat flows through the outside surfaces of each room for clear and cloudy, winter and summer days.
4. Acoustic evaluation, calculating the noise levels in the room resulting from outside sources, and permitting comparison with a specified maximum acceptable noise level.

The model is available at the CAD Centre for general use by architects and planners.

. . . And computer-aided design of continuous prestressed concrete beams

Developed for the design of continuous prestressed concrete beams by the CAD Centre, Cambridge, and Stirling, Maynard and Partners, consulting engineers, the 'PRESBEAM' program assumes that the shape of the beam has been determined prior to the start of the program and that the applied bending moments have been generated by other means. This situation coincides exactly with bridge problems, where the shape is often strongly influenced by aesthetic considerations and where the applied moments are an envelope resulting from multiple moving-load cases and an elaborate three-dimensional analysis. Using the program, the designer types appropriate commands on a storage-tube display console: he can thus first display an elevation of the beam and any optional preliminary guess at a prestressing system, then analyse the loaded beam and display the resulting stresses, and finally, if the results are unsatisfactory, he can manipulate the prestressing system and display the stresses until a satisfactory design has been obtained. A permanent record of a design may be requested at any stage. Savings of £200-£300 in design costs can be achieved during a single session using 'PRESBEAM'.

More information: Chief Consultant, The Computer Aided Design Centre, Madingley Road, Cambridge, CB3 0HB.

Government Chemist on show

The environmental aspects of its services to other Government departments will be stressed when the Laboratory of the Government Chemist puts its work on show at open days on October 20 and 21. The work of the Laboratory's divisions concerned with food and nutrition, agricultural materials, radio-chemistry and water and health services will be prominent, and there will be displays involving food additives and contaminants, vitamins, pesticides, effluents, drugs and medicines, dental materials and bacteriology. Other exhibits will include analytical examination of beer, tobacco, hydrocarbon oils, minerals and industrial atmospheres, plus recent developments in the automation of analytical methods. Tickets, free, from: Dr. D. C. Abbott, Laboratory of the Government Chemist, Cornwall House, Stamford Street, London, S.E.1.

Degradation of grinding belts

The Fulmer Research Institute has been awarded a two-year contract (funded jointly

by English Abrasives Ltd. and the Department of Trade and Industry) to study the mechanism of degradation of grinding belts and the effect of the grinding operation on the mechanical properties of the component. Extensive use will be made of the Institute's combined facility for electron microscopy/microprobe analysis.
More information: Dr. J. A. Coiley, Fulmer Research Institute, Stoke Poges, Slough, Bucks SL2 4QD. Tel: Fulmer 2181.

The real cost of computing

How much does computing really cost, how can this cost be determined, what overheads should be included and what indirect costs are involved? These are some of the questions to be discussed at a National Computing Centre conference to be held in London's National Film Theatre on September 7. The conference aims to help both users and potential users make the right computer decisions from a true identification of all the relevant costs.
More information: Peter Wheeler, Public Relations Officer, National Computing Centre, Quay House, Quay Street, Manchester M3 3HU. Tel: 061-832 9731.

All aspects of joinery

Joinery, by C. H. Tack of the Forest Products Research Laboratory, covers all aspects of the subject and draws together information otherwise obtained only by studying many different publications. Emphasis is laid on the importance of using wood at the appropriate moisture content. £1 from HMSO and booksellers.

Mines research contributes to other industries

Examples of the way in which research carried out by DTI'S Safety in Mines Research Establishment can be applied to non-mining industries are to be found in SMRE's annual report now published. They include work on anti-slip studs for boots; research into the safety problems that could be created by a breach in the cooling duct of a nuclear reactor; and development of a device for detecting explosive fuel mists of the type that might be produced in ducts in the Concorde's fatigue-testing rig. Notable among mine safety research described in the report is work on instruments for detecting and measuring gases that pollute the mining environment. *Safety in Mines Research* 1970 is 60p from HMSO.

Engineering in medicine—and textiles

Two new films have joined the *Engineers for Tomorrow* series, which aims to encourage able young people to consider engineering or technology as a profession. *Engineering in Medicine* looks at some of the branches of medicine in which the doctor and the engineer work together to raise the quality of medical treatment and rehabilitation. *The Engineer in Textiles* shows something of the enormous scope for the young engineer in today's highly automated textile industry. Both films are sponsored by DTI and produced through the Central Office of Information, and are available on free loan for non-theatrical use from the Central Film Library and its associated libraries in Scotland and Wales.

Forty years' experience of temperature measurement

Calibration of Thermometers, by the late C. R. Barber of the National Physical Laboratory, reflects over 40 years' experience by the author in the field of temperature measurement. The term 'thermometer' covers a wide range of measuring instruments—including platinum resistance, gas and mercury-in-glass thermometers, thermocouples, and radiation pyrometers. 35p from HMSO.

Computer Composing

Now available from HMSO (price 80p), *Computer Composing*—a report by C. J. Duncan, Director of Photography at Newcastle University—covers a five-year research programme conducted, on behalf of the Department of Trade and Industry, to provide the printing industry both with a series of computer programmes enabling all the operations of copy preparation, editing and photo composition to be performed, and with a wholly automatic system of preparing material from computers for publication in an improved, readable form.

Group Technology appreciation

The DTI-sponsored and UKAEA-managed Group Technology Centre at Blacknest in Berkshire is offering a series of one-day Group Technology appreciation seminars during the coming months. Group Technology is a technique for producing small-batch component runs with the same economies as in continuous flow-line production. Seminars will be held this year on October 5, November 9 and December 7; and in 1972 on January 18, February 15, March 14, April 18, May 16, June 13 and July 11. Course fee is £15.
More information: The Secretary, Group Technology Centre, Blacknest, Brimpton, near Reading, Berks RG7 4RS. Tel: Tadley 4111 exts 5951/5864.

'Pressure-Probe Methods for Determining Wind Speed and Flow Direction'

A 125-page monograph of the above title, written by D. W. Bryer and R. C. Pankhurst of the National Physical Laboratory (and available—price £3.50—from HMSO), reviews the present state of the art, and should prove a valuable source of reference both to the specialist and the non-specialist. The monograph covers measurement of total pressure, static pressure, stream velocity and flow direction, construction of pressure probes, and the role of such associated apparatus as orientation and traversing devices and manometers.

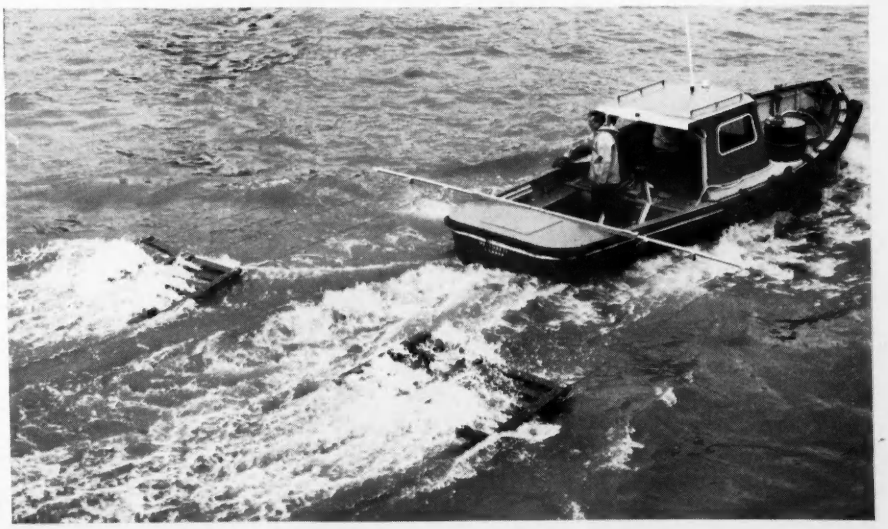
Computer abstracts

International Computer Bibliography, Volume 2, 1968/70, is the second part of a comprehensive compilation of abstracts relating to computer books in several languages. Volume 1 contained 6,000 entries and Volume 2 has a further 1,200. All aspects of computer technology and applications are covered, with 39 countries contributing. Volume 1 is £20, and Volume 2 £10, from NCC Publications, The National Computing Centre, Quay House, Quay Street, Manchester M3 3HU.

Survey of Information Projects—3rd edition

Because the number of information projects undertaken has expanded so rapidly, a third edition of the booklet *A Survey of Information*

Through a licensing arrangement with DTI's Warren Spring Laboratory, Biggs Wall and Co., Hitchin Road, Arlesey, Beds., can now offer, as a complete unit, all the components and fabricated sections required for treatment of oil-polluted beaches and inshore waters. For sea operation, the equipment is mounted on a small- or medium-size boat, and the dispersant is sprayed on to the oil slick from booms projecting over both sides at the stern, and then agitated by trailing surface breakers to produce an emulsion suitably stabilised for dispersal. To clear beaches, oil is sprayed by hand from two lances connected to the same basic equipment.



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Or by subscribing to the 12 issues of *Trade and Industry* per year which contain *New Technology* at £1.75 (including postage). Subscriptions to: HMSO, PO Box 569, London SE1.

Projects is to be published by the Department of Trade and Industry. A large number of questionnaires sent out by the Department have been completed and returned but DTI is keen to make the survey as comprehensive as possible and would like to hear of any projects that may not have been so far covered. Companies, associations, university departments, libraries and other organisations with an active interest in information or document retrieval who have not so far received a copy of the questionnaire are invited to request one from: Department of Trade and Industry, Systems and Automation Division, Room 206, Dean Bradley House, 52 Horseferry Road, London, S.W.1. Tel: 01-799 5688 ext 172.

A dynamic performance test for lathes

The Machine Tool Industry Research Association has developed a practicable cutting-test procedure for comparing the metal-removing capabilities of lathes. The test, which was developed under a contract from the Department of Trade and Industry, is described in a report, just published by MTIRA, which also describes the work done in developing the test procedure and gives instructions for carrying out the test and for interpreting the results. Despite the very large number of factors which can affect the cutting performance of a lathe, the relatively simple test procedure will give results which will usually be accurate to plus or minus 10 per cent, provided that the conditions of test are controlled in the manner described. Although the test procedure described relates only to lathes—the most common type of machine tool and the one using the simplest cutting methods—similar tests could now be formulated for other types of machine tool. The project involved the formulation of a cutting test procedure, identification of the factors having most effect on the liability of a machine tool to chatter, and the specification of acceptable limits on the values of the quantities involved, the specification of test conditions, and the determination of the repeatability of the results obtained. In addition, because of the need to be able to predict, from tests on one machine of a given type, the likely behaviour of other, nominally-identical, machines, consideration was also given to the way in which the test results are to be interpreted for this purpose. The report is £12 from MTIRA, Hulley Road, Macclesfield, Cheshire.

Continued Government support for CoID

The Government is to continue support of the Council of Industrial Design to enable it to carry out its essential educational and promotional role, the Secretary of State for Trade and Industry, Mr. John Davies, has informed the House of Commons in a written answer. Announcing the result of his review of the Council, the Secretary of State said: 'I am satisfied that the Council has had a significant and beneficial influence on the standards of industrial design in this country and that there is a continuing need for Government support to enable it to carry out its essential educational and promotional role. Earlier I asked the Council, in collaboration with the Council of Engineering Institutions, to consider how progress might be made toward improving the standards of engineering design, and to this end an Engineering Design Advisory Committee has been established. I am convinced that the Council can give a valuable lead in this field. Accordingly I have now asked that it should adjust its priorities and, over time, give greater emphasis to this work.'

Guarding machinery in foundries

Methods of guarding certain machines used in foundries are described in a report published by the Department of Employment. *Guarding of Foundry Machinery* (HMSO, 40p) is the first report of a sub-committee of the Joint Standing Committee on Health, Safety and Welfare in Foundries, and is directed not only to users, but also to machine makers, on whose efforts progress in the development of guards will largely depend. The report says: 'We should like to see all makers of machinery consciously designing it for intrinsic safety and selling machines with guards already fitted.' It deals in particular with moulding machines, core-making machines, and sand mixers and mills, which experience has shown to be particularly dangerous and for which there are no easily available commercial guards. Examples are given in each case of guards which have been used for several months in the day-to-day conditions of normal production.

Improving welded-product design

A Welding Institute Conference at the Bloomsbury Centre Hotel, London, from November 16-19, will put into perspective some of the experience and research of the past years which could be used as design parameters, and will also examine recent research which has led to new engineering philosophies. Six technical sessions will cover: structural and stress analysis of welded fabrications; determination of strength criteria and design considerations related to welded joint properties; the design, inspection and quality control relationship; design organisation; and education and training trends. Many overseas delegates are expected.
More information: The Welding Institute, Abington Hall, Abington, Cambridge, CB1 6AL. Tel: Linton 162.

A 'clinic' for materials-handling problems

A new approach to materials-handling problem solving which will enable industrialists to talk directly to experts who may have the solutions is being initiated by the National Materials Handling Centre. Each month the Centre is to hold a one-day 'problem clinic' dealing with a specific aspect of materials handling, at which experts will describe particular problems they have solved. John Williams, NHMC director, describes the clinics as 'development accelerators'. He says: 'New materials-handling techniques are constantly being introduced and it is important that potential users should have the opportunity to learn how they are being used and to assess their value. It is equally of value for the researcher, developer, engineer or manufacturer to gain an appreciation of the problems his equipment may be required to solve and that he should do this at an early stage in its development'. The clinics, to be held at Cranfield Institute of Technology, are open to members and non-members of the NMHC and are free of charge. The programme is as follows:

1971	Sept. 23	Minicomputers in materials handling
	Oct. 21	The air-cushion principle
	Nov. 18	Expendable pallets
	Dec. 16	Handling on building and construction sites
1972	Jan. 20	Fire risks in warehouses
	Feb. 17	Modular dimensions
	Mar. 16	Selling in the Common Market
	April 13	Order selection techniques
	June 1	Sorting systems
	June 29	Robots and their uses

Reservations in writing to: Mrs. Enid Wilson, National Materials Handling Centre, Cranfield Institute of Technology, Cranfield, Beds.

Patents Office information retrieval services

A new booklet, *About Patents*, describes in detail the information retrieval services provided by the Patent Office—the largest technical publisher in the country—and how to make use of them. The use of inexpensive Patent Office services for finding prior patent specifications dealing with any aspect of manufacture can prevent waste of time on the development of ideas which are not, in fact, novel. Manufacturers can also be kept aware of what is being patented in their own particular fields. The booklet also deals briefly with applying for a patent, what happens to the application, the exploitation of a patent including licensing, and how to obtain details of accepted patents, and contains a list of publications available from the Office and from other bodies concerned with invention and patent literature. The booklet is available free from Sale Branch, The Patent Office, Orpington, Kent, BR5 3RD.

More information: Where possible, items in *New Technology* indicate the best sources of further information. Readers are advised also to seek information on matters relating to *New Technology* from the following DTI regional offices: Edinburgh, 031-225 1822; Cardiff 62131; Newcastle upon Tyne 27575; Manchester, 061-832 9111; Leeds 38232; Nottingham 46121; Birmingham, 021-643 8221; Bristol 21071; South East and East Anglia, 01-799 5688. In Northern Ireland, information is given by the Dept. of Industrial and Forensic Science, Belfast 21722.
Editorial Office: Department of Trade and Industry, Room 439, 1 Victoria Street, London S.W.1. Tel: 01-222 7877, ext. 2620.
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Activity in the chemicals industry

THIS article is one of a series published quarterly and presents the latest information available on activity in the chemicals industry as defined in Order V of the Standard Industrial Classification. Notes defining the chemicals industry and its sectors were included in the issue of the *Board of Trade Journal* of January 28, 1970. More detailed information, at product level, is published in the Business Monitor series in respect of several sectors of the industry.*

Production (Table 1)

In the first quarter of this year output in the chemicals industry was 2½ per cent below the level of the previous quarter. The rise over the corresponding quarter of 1970, however, was 4½ per cent, although this is 2½ per cent below the long term trend for the industry. These changes occurred against a background of slackening growth in the economy as a whole. Gross domestic product fell by nearly 5 per cent in the first quarter of this year and was then slightly below the level of a year earlier. Manufacturing activity, the major source of demand on the chemicals industry, fell by nearly 1½ per cent in the first quarter and was unchanged compared with the same period in 1970.

The only major sector of the industry to show an increase in output over the fourth quarter of 1970 was organic chemicals, where the output of monomers picked up substantially, rising by nearly 6 per cent. There were large falls in several sectors, the most significant being formulated pesticides (20 per cent), fertilisers (11 per cent), synthetic rubber (9 per cent) and other chemical industries (9 per cent). The large fall in pesticides was

(continued on next page)

* A full list of Business Monitor titles is published on page 403 of this issue.

TABLE 1. OUTPUT

Index number 1963 = 100

	1968 MLH	Weights	1964	1965	1966	1967	1968	1969	1970	1969 (Seasonally adjusted 4th qtr.	1970 (Seasonally adjusted 1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	1971 (Seasonally adjusted 1st qtr.	% Growth rates 1963/70	% Growth rates 1969/70
Inorganic chemicals	271/1	11.2	111	118	119	124	130	133	138	130	134	137	139	142	138	*4.7*	*4.0*
Organic chemicals	271/2	13.7	112	118	122	127	143	160	168	170	160	170	173	167	168	*7.7*	*5.0*
Coal tar products		1.9	100	94	90	84	76	67	61	62	61	64	61	57	54	*–4.2*	*–9.5*
Monomers		4.5	124	135	147	157	188	225	230	237	222	234	236	230	243	*12.7*	*2.1*
Other organic chemicals		7.3	109	113	115	119	132	143	157	156	148	158	164	158	152	*6.6*	*9.4*
Other chemicals	271/3	11.2	111	112	117	124	136	140	143	145	134	145	144	149	143	*5.2*	*2.2*
Pharmaceutical chemicals and preparations	272	13.0	111	126	145	156	167	189	208	202	193	205	213	222	211	*11.0*	*9.9*
Toilet preparations	273	3.9	108	110	117	122	121	119	123	120	121	122	120	130	131	*2.9*	*3.8*
Paint	274	7.3	107	107	108	112	118	120	127	118	123	125	131	131	123	*3.5*	*5.7*
Soap and detergents	275	4.0	102	101	103	104	108	114	113	117	109	117	114	112	111	*1.8*	*–0.9*
Synthetic resins and plastics materials	276/1	10.7	114	123	135	147	169	185	198	189	184	201	205	205	195	*10.3*	*7.5*
Synthetic rubber	276/2	1.0	122	137	152	160	186	214	240	228	225	241	254	243	221	*13.3*	*12.0*
Dyestuffs and pigments	277	6.0	116	137	137	137	152	161	177	160	178	183	179	170	171	*8.5*	*10.1*
Fertilisers	278	4.0	101	100	98	106	107	100	109	89	96	105	117	120	107	*1.2*	*9.3*
Other chemical industries	279	14.0	105	113	118	129	129	132	137	139	128	135	140	146	133	*4.7*	*3.3*
Of which: Formulated pesticides etc.	279/4	1.6	114	121	139	146	166	186	194	207	189	184	181	236	189	*9.9*	*4.1*
Photographic chemical materials	279/7	2.6	111	120	129	138	150	163	179	172	162	180	192	186	177	*8.9*	*9.6*
Total	Order V	100.0	110	117	123	130	140	149	158	153	151	158..	160	162	158	*6.8*	*5.8*
Total all manufacturing industry			109	112	114	114	121	126	127	126	127	126	127	128	127	*3.5*	*1.2*

TABLE 2. IMPORTS OF THE CHEMICAL INDUSTRY: CURRENT PRICES

£ million

	Inorganic chemicals	Organic chemicals	Other chemicals	Pharm. chems. and preps.	Toilet preparations	Paint	Soap and detergents	Synthetic resins	Synthetic rubber	Dystuffs and pigments	Fertilisers	Products of other chemical industries	Total
	271/1	271/2	271/3	272	273	274	275	276/1	276/2	277	278	279	
1963	18.5	54.7	32.1	8.4	2.0	1.9	4.0	42.6	10.8	11.2	20.1	12.0	218.4
1964	26.0	71.0	38.0	8.9	2.7	2.2	3.3	53.5	11.7	14.9	18.8	14.2	265.1
1965	29.4	86.0	43.4	13.4	2.8	2.4	3.6	53.6	10.0	15.3	19.6	15.6	295.1
1966	33.1	85.4	43.2	16.4	3.2	2.7	5.0	58.4	11.1	15.7	17.9	17.1	309.2
1967	38.0	95.4	44.2	17.5	3.3	3.4	5.7	64.2	13.0	17.9	26.3	19.0	347.9
1968	46.8	118.1	59.1	21.8	4.4	4.5	7.5	81.3	14.6	24.8	29.2	22.8	434.9
1969	56.9	136.4	66.6	29.1	4.6	4.8	6.7	91.4	16.8	25.0	24.2	24.1	486.6
1970	70.5	160.7	71.7	38.4	5.1	5.5	5.8	109.0	18.8	26.7	23.1	30.6	565.9
1968 1st quarter	12.4	27.6	15.4	5.1	1.2	1.1	1.9	20.1	3.5	5.9	9.3	6.5	110.0
2nd quarter	11.5	28.2	14.8	5.1	1.1	1.2	1.7	20.3	3.7	6.2	6.4	5.3	105.5
3rd quarter	11.1	31.1	14.2	6.5	1.2	1.2	2.2	20.8	3.3	6.6	7.3	5.7	111.2
4th quarter	11.8	31.3	14.8	5.2	0.8	1.0	1.6	20.2	4.0	6.0	6.2	5.3	108.2
1969 1st quarter	13.0	30.7	17.7	6.3	0.8	1.0	1.6	20.3	3.9	6.5	8.0	6.0	115.8
2nd quarter	15.2	34.6	16.8	7.1	1.2	1.3	1.7	24.9	4.6	6.8	5.7	6.3	126.2
3rd quarter	14.3	35.0	15.4	7.7	1.4	1.3	1.7	23.4	4.1	5.7	6.1	6.3	122.4
4th quarter	14.4	36.0	16.7	8.0	1.1	1.3	1.6	22.8	4.2	6.0	4.4	5.6	122.1
1970 1st quarter	17.3	37.6	16.9	9.6	0.9	1.3	1.3	25.1	4.5	5.7	7.3	8.1	135.5
2nd quarter	17.3	40.5	19.4	8.8	1.4	1.5	1.6	28.1	5.2	6.7	4.4	7.7	142.8
3rd quarter	16.7	40.4	17.0	9.1	1.6	1.6	1.4	27.3	4.0	7.5	4.9	7.7	139.2
4th quarter	19.2	42.2	18.5	10.9	1.2	1.1	1.5	28.4	5.0	6.8	6.5	7.2	148.4
1971 1st quarter	18.0	40.2	20.2	10.3	1.3	1.3	1.9	28.3	4.6	9.2	8.9	9.9	153.9
2nd quarter	18.6	36.4	21.8	10.8	1.8	1.4	2.6	29.7	5.3	9.5	5.1	9.0	152.1

ACTIVITY IN THE CHEMICALS INDUSTRY
continued

mainly the consequence of an abnormally high value of the index in the final quarter of 1970 due to high sales of herbicides. Compared with a year earlier, all main sectors recorded increases, the largest being in pharmaceuticals (9 per cent), toilet preparations (8 per cent) and fertilisers (12 per cent). Provisional estimates for the second quarter suggest that output was only slightly above that in the first quarter, and that in the first half of this year output was below the level of the second half of 1970.

Imports and exports (Tables 2 and 3)

The value of imports fell slightly in the second quarter, but in the first half of this year the level was 10 per cent above that in the same period of 1970 and 6½ per cent above the level of the second half of last year. In the second quarter of this year imports of general chemicals were 2 per cent below the first quarter, with a fall in organics of nearly £4 million (10 per cent).

Exports rose sharply in the second quarter. Some of the rise was a catching up of the under-recording in the first quarter as a result of the postal strike which delayed the returning of documents relating to exports and imports. In the first half of this year exports were 10½ per cent above the level in the first half of 1970 and 8¼ per cent above the level of the second half. The largest rises in the value of exports in the first half of this year compared with the same period in 1970 were in pharmaceuticals (24 per cent) and organic chemicals (18 per cent).

Home market prices (Table 4)

The rise in home market prices in the chemicals industry, which accelerated in the middle of 1970, continued in the first half of this year with a rise of nearly 8½ per cent over the first half of 1970. The price of all manufactured goods rose by 8¼ per cent over this period. The provisional figure of chemical prices for the second quarter indicates some moderation in the rate of advance of prices, following the rapid increase (3¼ per cent) in the previous three months. An important factor in this was the slowing down in the rate of increase in costs of the industry's purchases of raw materials and fuel (see table 5).

Prices rose in all sectors of the industry during the second quarter. The largest rise was in pharmaceutical chemicals (4 per cent), where the level was then over 10 per cent above the corresponding quarter of 1970. Other large rises in the second quarter were in synthetic detergents (3¼ per cent), paint (3 per

TABLE 3. EXPORTS OF THE CHEMICAL INDUSTRY: CURRENT PRICES

£ million

	Inorganic chemicals	Organic chemicals	Other chemicals	Pharm. chems. and preps.	Toilet preparations	Paint	Soap and detergents	Synthetic resins	Synthetic rubber	Dyestuffs and pigments	Fertilisers	Products of other chemical industries	Of which pesticides	Photographic chemicals	Total
	271/1	271/2	271/3	272	273	274	275	276/1	276/2	277	278	279	279/4	279/7	
1963	34.7	58.3	57.0	50.9	10.7	14.0	15.2	61.0	7.2	30.3	4.9	47.2	10.5	13.4	391.4
1964	38.6	65.2	63.7	56.4	11.3	14.3	15.3	71.2	7.8	35.6	5.9	51.8	12.1	14.7	437.1
1965	42.6	64.6	70.9	63.6	12.0	14.0	15.3	79.8	9.2	35.6	8.1	54.3	11.9	16.4	470.0
1966	41.9	69.7	74.3	70.4	13.0	14.1	14.9	86.0	10.7	36.8	7.8	60.3	15.0	17.2	499.7
1967	41.4	75.4	77.5	75.2	14.0	13.4	16.2	91.5	10.0	37.5	8.4	63.6	17.0	19.1	524.0
1968	50.1	99.3	93.9	92.6	17.3	16.3	18.6	107.0	14.1	45.1	7.5	82.9	21.0	27.3	644.7
1969	51.3	109.8	109.5	112.9	20.4	17.6	22.5	124.1	17.5	50.1	5.4	99.0	26.2	33.5	740.1
1970	61.5	135.7	127.0	134.1	22.4	19.5	23.5	139.1	19.8	53.6	4.8	105.0	26.5	39.8	846.2
1968 1st quarter	11.8	23.3	22.4	22.7	4.1	3.9	4.4	24.4	3.6	10.9	2.2	20.5	5.9	6.2	154.2
2nd quarter	13.2	24.9	24.6	24.2	4.2	4.0	4.7	28.2	3.0	10.7	1.4	21.6	5.7	7.1	164.7
3rd quarter	13.0	24.8	23.9	21.5	4.3	4.3	4.9	26.3	3.3	11.9	1.5	20.4	4.9	6.7	160.1
4th quarter	12.1	26.3	23.1	24.2	4.7	4.2	4.7	28.0	4.3	11.6	2.4	20.4	4.5	7.3	165.9
1969 1st quarter	11.5	24.3	23.8	25.3	4.3	4.0	4.9	27.8	4.2	11.1	1.9	22.4	6.4	6.6	165.5
2nd quarter	13.8	26.8	28.5	28.6	5.0	4.4	5.1	32.3	4.3	12.7	1.0	26.3	7.3	9.0	188.8
3rd quarter	13.2	28.7	29.0	29.0	5.1	4.4	6.2	30.2	4.0	12.4	0.8	24.8	6.1	8.9	187.8
4th quarter	12.8	30.0	28.3	29.9	5.9	4.9	6.3	33.8	5.0	13.9	1.6	25.5	6.4	9.0	197.9
1970 1st quarter	13.7	31.8	29.1	31.0	5.0	4.3	5.6	33.2	4.4	12.5	1.7	25.0	8.0	8.1	197.2
2nd quarter	18.3	33.0	31.6	32.7	6.0	5.1	6.0	37.8	5.9	14.3	1.4	29.4	8.3	11.1	221.4
3rd quarter	13.8	32.6	30.5	31.3	5.3	4.4	5.6	31.2	4.6	12.7	0.6	24.0	5.1	10.3	196.7
4th quarter	15.9	38.3	35.8	39.0	6.2	5.6	6.3	37.0	4.9	14.1	1.1	26.5	5.0	10.3	230.8
1971 1st quarter	14.8	35.3	30.5	34.3	5.1	4.9	5.6	34.2	5.3	13.2	1.4	26.8	8.1	9.5	211.6
2nd quarter	16.7	41.2	37.6	44.6	5.9	5.6	6.2	39.8	5.0	14.7	0.8	33.3	9.8	12.3	251.2

TABLE 4. HOME MARKET PRICES

1963 = 100

	1968 MLH	1964	1965	1966	1967	1968	1969	1970	1969				1970				1971	
									1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.
Inorganic chemicals	271/1	101.2	101.9	105.5	105.9	110.0	113.2	118.7	110.9	112.6	114.5	114.7	116.4	119.3	119.5	119.8	125.2	127.8
Organic chemicals	271/2	96.6	96.6	96.2	96.2	98.1	97.8	99.1	98.5	98.3	97.8	97.6	97.3	97.9	100.5	100.7	103.7	105.5
Other chemicals	271/3	98.6	99.8	99.6	100.9	102.0	103.8	107.3	102.9	103.2	104.2	104.7	103.9	105.3	110.0	109.9	113.6	114.2
Pharmaceutical chemicals	272	98.7	96.5	92.9	92.2	93.8	94.7	104.7	93.7	94.1	94.2	96.7	98.5	104.7	107.3	108.2	110.8	115.3
Pharmaceutical preparations	272	99.2	98.1	95.8	94.8	95.5	94.8	96.7	94.8	94.6	94.6	95.0	95.5	96.4	97.4	97.7	98.4	100.5
Toilet preparations	273	103.5	109.3	113.3	114.5	121.2	123.4	131.1	122.2	123.0	123.0	124.2	126.5	129.5	132.7	135.8	136.7	139.7
Paint	274	100.4	101.4	101.6	101.7	103.9	104.8	111.1	104.8	104.8	104.7	104.8	105.5	110.6	111.4	117.0	121.7	125.2
Soap	275	104.0	114.7	115.4	113.7	116.1	121.3	131.6	117.3	120.1	123.5	123.4	126.9	130.7	133.5	135.2	139.1	140.1
Synthetic detergents	275	100.9	103.4	103.4	100.9	102.2	105.6	110.9	103.2	103.9	107.0	108.5	108.9	109.2	112.5	113.0	113.6	117.2
Synthetic resins and plastics materials	276/1	98.0	96.1	95.3	93.4	95.6	96.5	99.6	95.9	96.4	96.5	97.2	97.6	99.2	100.4	101.0	102.8	103.8
Dyestuffs and pigments	277	101.4	109.9	112.2	112.5	114.0	118.8	127.8	115.7	119.2	119.8	120.5	121.7	124.7	132.5	132.3	137.9	141.5
Formulated pesticides	279/4	98.0	99.3	102.5	102.8	106.3	105.3	107.2	105.5	105.0	105.0	105.8	106.1	105.5	108.4	108.8	109.8	110.4
Photographic chemical materials	279/7	101.6	102.5	102.6	104.5	117.6	118.3	122.0	118.1	118.4	118.4	118.4	119.2	119.8	124.0	124.8	126.2	127.7
Total	Order V*	100.1	101.0	101.7	102.1	105.4	106.4	111.2	105.7	105.9	106.7	107.4	108.3	110.3	112.3	113.7	117.4	119.6

* This price index refers only to sales outside the chemicals industry, including sectors not shown above

cent) and dyestuffs and pigments (2½ per cent). For paint and dyestuffs and pigments the rise in prices over the corresponding period a year earlier exceeded 13 per cent.

Prices of materials and fuel purchased (Table 5)

Table 5 presents an index of prices of materials and fuel purchased by the chemicals industry. Its construction is based on wide categories of expenditure including oil, coal, a number of general chemicals, electricity, packaging materials, and chemical plant.

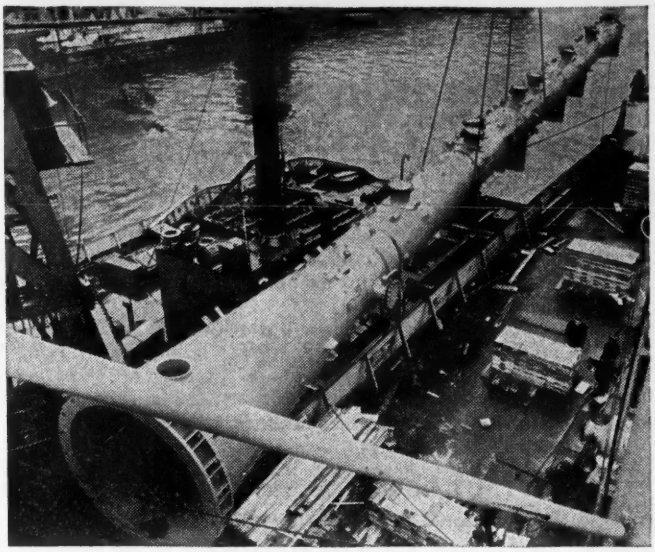
The provisional figure for the second quarter of 1971 was 1½ per cent above that for the previous quarter, and nearly 9 per cent above the index a year earlier. The increase in the second quarter was below that in the first when prices rose by 2¾ per cent. One factor in this was a lower rise in the price of oil than in the first quarter when prices rose sharply following new arrangements with the oil producing countries.

Capital expenditure (Table 7)

The volume of investment is now estimated to have risen by 27 per cent in 1970, reaching a peak level of £281 million at 1963 prices. At current prices, investment was 41 per cent above the level of the previous year.

In the first quarter of 1971, investment at 1963 prices at £67 millions was the same as in the first quarter of 1970, but £5 million below the level of the first quarter of 1970. The 12 per cent rise in investment at current prices over the year since the first quarter of 1970 is therefore accounted for by a rise of this order in the prices of new assets.

Information supplied to the Department of Trade and Industry in May this year suggests that firms in the chemicals industry had revised downwards their investment plans since the previous intentions inquiry taken at the end of last year.



A 160 ft. long regeneration tower, weighing 57 tons, which was recently shipped at Manchester on the m.v. Baluchistan owned by Strick Line Ltd., a member of the P & O Group. The tower is being shipped by The Power-Gas Corporation Ltd. (a Davy-Ashmore Company), and forms part of an order to build in Umm Said, Qatar, a fertiliser complex worth over £23 million. When completed the plant will have a capacity of 990 tons of ammonia and 1,100 of urea fertiliser daily; it is expected to be in operation by mid-1972.

TABLE 5. PRICES OF MATERIALS AND FUEL PURCHASED BY THE CHEMICALS AND ALLIED INDUSTRIES (ORDER V)

1963 = 100

	1964	1965	1966	1967	1968	1969	1970	1969			1970				1971	
								2nd qtr.	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.	3rd qtr.	4th qtr.	1st qtr.	2nd qtr.
Order V	103.8	107.6	108.4	110.0	114.4	116.7	123.7	116.2	116.8	118.7	120.7	122.4	123.7	127.8	131.3	133.3

TABLE 6. EMPLOYMENT (GREAT BRITAIN)†

	1968	1969		1970				1971
	MLH	Sept	Dec.	March	June	Sept.	Dec.	March
General chemicals	271	144.8	144.6	144.5	137.7	135.1	133.7	132.5
Pharmaceutical chemicals and preparations	272	70.8	71.8	71.9	75.2	76.6	77.6	77.3
Toilet preparations	273	27.3	28.2	26.1	23.2	24.0	24.1	23.1
Paint	274	35.3	34.9	33.8	33.8	34.1	33.4	33.1
Soap and detergents	275	24.8	24.7	24.8	21.5	21.1	20.8	20.4
Synthetic resins and plastics materials and synthetic rubber	276	57.7	58.8	58.7	59.5	60.1	59.5	59.0
Dyestuffs and pigments	277	25.2	25.7	26.0	26.6	26.9	27.1	26.9
Fertilisers	278	13.1	13.3	13.7	13.0	13.0	13.2	13.3
Other chemical industries	279	77.9	77.5	76.4	81.9	81.6	80.2	78.6
Total		476.9	479.5	475.9	472.5	472.5	469.6	464.2

† Employment in the chemicals industry in Northern Ireland is about 3,500; of which 1,000 is in General Chemicals; 1,700 in Synthetic Resins and Plastics Materials and 600 in Fertilisers. From June 1970 onwards, all figures have been revised to take account of information derived from the mid-1970 count of national insurance cards.

TABLE 7. CAPITAL EXPENDITURE

	£ million	
	Current prices	1963 prices
1963	134	134
1964	168	165
1965	224	209
1966	259	229
1967	217	191
1968	223	189
1969	270	221
1970	381 r	281 r
	Actual	Seasonally adjusted
1968 3rd quarter	50	45
4th quarter	73	55
1969 1st quarter	55	49
2nd quarter	65	56
3rd quarter	68	60
4th quarter	82	57
1970 1st quarter	82 r	67 r
2nd quarter	90 r	70 r
3rd quarter	93 r	72
4th quarter	115	72 r
1971 1st quarter	92	67

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Electronic capital equipment in the first quarter of 1971

Output

PROVISIONAL figures show that the value of output, at current prices, of electronic capital equipment in the first quarter of 1971 was higher than in both the preceding quarter and the first quarter of 1970.

Total output includes research and development, and amounted to £173 million in the period under review compared with £162 million in the first quarter of 1970, an increase of 7 per cent. Included in these figures were exports of £57 million and £61 million respectively; thus exports declined by 6 per cent.

These totals break down as follows:

TOTAL OUTPUT OF ELECTRONIC CAPITAL EQUIPMENT

£ million, current prices

	1970 1st qtr.	1971 1st qtr.	Change £m	Change %
Computers	46.3	48.0	+ 1.7	+ 4
Control equipment	18.8	21.1	+ 2.3	+12
Measuring instruments	10.5	11.7	+ 1.2	+11
Nucleonic instruments	1.5	1.5	—	—
Broadcasting equipment	3.2	2.8	− 0.4	−12
Radar	17.4	18.3	+ 0.9	+ 5
Navigational aid equipment	12.1	13.5	+ 1.4	+12
Radio communication equipment	18.0	19.4	+ 1.4	+ 8
Other goods	13.8	13.6	− 0.2	−15
Other work	8.9	11.2	+ 2.3	+26
Total deliveries	150.5	161.1	+10.6	+ 7
Research and development	11.1	11.6	+ 0.5	+ 5
Total output	161.6	172.7	+11.1	+ 7

The table below gives details of recent quarterly movements.

Exports

The first quarter of 1971 showed a marked decline in exports, to a figure below the quarterly average of 1970. This fall was largely accounted for by one item, computers, which has been the subject of recent comment by DTI. Even if computers are excluded, however, the proportion of hardware deliveries which is exported has declined from recent levels, as the table indicates.

Orders on hand

The level of orders on hand has declined steadily from the mid-1970 peak, but there is little difference relatively between orders for the home or for export markets.

Members of the Publicity Committee of the Electronic Engineering Association greeted their president, Mr. W. R. R. Haines (third from right), at a recent luncheon held at the Press Club. The EEA which represents the leading British manufacturers of electronic capital equipment, tries in its public relations, to create the right climate for the expansion of its members' business by sponsoring participation in exhibitions at home and abroad. EEA sponsor joint-ventures in conjunction with DTI at Intercon 72, New York and 'Wescon' Electronic Shows in the United States.

ORDERS ON HAND FOR ELECTRONIC CAPITAL EQUIPMENT

£ million, current prices

	Home	Export	Total
December 31, 1967	319	157	476
December 31, 1968	360	176	536
December 31, 1969	394	225	619
March 31, 1970	391	207	598
June 30, 1970	429	219	648
September 30, 1970	404	212	616
December 31, 1970	391	204	595
March 31, 1971	393	200	593

The above totals all include orders for computers which, at March 31, 1971, amounted to £195 million, of which £88 million were for export.

Employment

The number employed in the capital sector of the electronic industry at the end of the first quarter of 1971 was little changed from that at the end of 1970, a fall in the computer industry being balanced by a small rise elsewhere.

ELECTRONIC CAPITAL EQUIPMENT

Deliveries, R & D and other work

£ million current prices

	1968		1969		1970*		1970 2nd quarter*		1970 3rd quarter*		1970 4th quarter*		1971 1st quarter*	
	Total	For Export	Total	For Export	Total	For Export	Total	For Export	Total	For Export	Total	For Export	Total	For Export
1. Electronic Computers & related equipment	109.4	38.7	141.8	59.3	209.1	90.8	48.2	19.9	60.6	25.1	54.0	27.0	48.0	19.0
2. Industrial Electronic Control equipment	52.3	12.7	64.3	16.0	78.7	20.6	17.0	4.7	20.7	5.8	22.2	6.1	21.1	4.2
3. Electronic Measuring & Testing equipment	42.5	19.0	41.3	19.4	44.1	20.5	11.4	5.4	10.1	4.8	12.1	5.5	11.7	5.0
4. Nucleonic Instruments & Controls	5.3	1.1	5.0	1.3	5.5	1.5	1.3	0.4	1.3	0.3	1.4	0.5	1.5	0.5
5. Public Broadcasting & Ancillary equipment	10.0	4.7	17.1	7.4	12.7	6.8	3.3	1.7	3.4	2.0	2.8	1.8	2.8	1.5
6. Radar	95.2	41.7	44.9	26.3	62.0	32.3	13.3	7.0	18.3	10.1	13.0	4.6	18.3	7.7
7. Electronic Navigational Aid Equipment			49.1	18.5	51.7	20.6	13.1	5.1	13.5	5.2	13.0	5.7	13.5	5.0
8. Radio communication equipment	52.1	22.3	57.9	26.4	67.3	35.9	19.2	11.5	14.5	6.6	15.6	7.8	19.4	8.8
9. Other Electronic Capital Goods	38.2	10.0	38.5	11.9	49.6	16.6	11.9	2.9	12.1	4.8	11.8	3.8	13.6	4.0
10. Other Work	24.9	3.5	30.2	3.8	35.9	2.9	8.1	0.3	9.0	0.9	9.9	0.9	11.2	1.0
Total Deliveries	429.9	153.7	490.2	190.3	616.6	248.5	146.8	58.9	163.5	65.6	155.8	63.7	161.1	56.7
11. Research and Development	42.8	3.4	45.2	3.4	49.2	2.7	12.3	0.8	12.4	0.5	13.4	0.9	11.6	0.3
Total Output	472.7	157.1	535.3	193.6	665.8	251.2	159.1	59.7	175.9	66.1	169.2	64.6	172.7	57.0
12. Sales to other UK Electronics manufacturers	10.2	—	10.6	—	19.7	—	3.3	—	5.7	—	6.4	—	5.8	—

NOTES: 1. Items 2, 3, 4 above are derived from the Electronic Capital Equipment and the Scientific Instrument inquiries.
2. Item 10 covers the installation and field maintenance of capital equipment.
3. Item 11 refers only to contract R & D. It does not include 'in-house' R & D for firms' own products.
4. Item 12 is already included as part of the output of the output of these other manufacturersin Total output.
* Provisional

Deliveries and orders in the engineering industries

PROVISIONAL figures are now available for June 1971 together with the amendments to the earlier months of 1971. The seasonal adjustment factors for 1970 and 1971 have been re-assessed taking advantage of the additional 12 months' experience of the series.

Comparison of the latest three-monthly period with the previous one indicate:

1. an increase in both home and export deliveries.
2. a continuing decline in both home and export orders-on-hand.
3. a substantial percentage increase in net-new-orders although the indices are still below the annual figure for 1970.

Description of statistics

To assist in the interpretation of trends, the statistics are published in seasonally adjusted form. While the method adopted in adjusting for seasonal factors removes regularly recurring influences, the seasonally adjusted series still reflects the effects of factors that do not recur regularly. Moreover, the seasonal pattern may be changing. The month to month variations are therefore kept under review and the seasonal adjustment factors are re-assessed each year as another 12 months' experience becomes available. Notwithstanding these difficulties the seasonally adjusted figures have shown themselves to be a valuable aid in interpreting trends in the complex engineering industries.

Care should be taken not to interpret changes between one month and another as necessarily indicating the underlying trend. The averages in the latest three months and in the previous three months give a more reliable guide to recent changes.

ENGINEERING AND ELECTRICAL GOODS (S.I.C. ORDERS VII, VIII AND IX) SEASONALLY ADJUSTED (1)

Index numbers of the volume of orders and deliveries

	Total			Home			Export		
	Orders on hand (end of period)	Net new orders	Deliveries	Orders on hand (end of period)	Net new orders	Deliveries	Orders on hand (end of period)	Net new orders	Deliveries
	December 1963 (unadjusted) = 100	Average 1963 deliveries = 100		December 1963 (unadjusted) = 100	Average 1963 deliveries = 100		December 1963 (unadjusted) = 100	Average 1963 deliveries = 100	
1963	100	107	100	100	109	100	99	103	100
1964	116	120	109	117	123	112	115	112	101
1965	119	115	114	118	116	115	123	113	108
1966	115	115	118	114	117	120	118	111	114
1967	106	114	120	100	113	123	125	115	111
1968	106	125	125	96	124	127	139	128	119
1969	117	139	132	99	134	132	171	152	132
1970	125	140	135	106	136	132	185	151	142
1969 1st quarter	110	139	128	97	133	130	152	155	125
2nd quarter	113	138	130	98	133	131	160	151	130
3rd quarter	115	139	135	98	135	134	166	150	136
4th quarter	117	139	134	99	135	132	171	151	139
1970 1st quarter	118	139	135	100	135	133	176	151	140
2nd quarter	122	144	135	101	136	132	186	168	143
3rd quarter	123	137	135	103	138	133	182	133	141
4th quarter	125	140	134	106	136	130	185	152	147
1971 1st quarter	120	122	136	102	121	132	176	125	146
2nd quarter*	117	131	138	99	126	135	175	145	148
1970 January	120	158	133	101	150	131	176	181	139
February	119	125	132	100	119	130	177	140	137
March	118	135	138	100	135	137	176	133	143
April	119	139	134	98	115	132	184	206	140
May	119	133	129	99	139	128	182	115	132
June	122	161	141	101	153	135	186	184	157
July	122	129	130	101	128	130	186	133	130
August	123	148	137	102	146	134	187	152	143
September	123	134	139	103	142	135	182	113	149
October	123	135	135	104	136	130	181	133	148
November	125	150	133	105	139	129	185	178	143
December	125	136	136	106	134	131	185	144	148
1971 January	122	115	136	103	108	132	183	134	149
February	120	118	132	101	114	127	180	127	144
March	120	135	139	102	142	138	176	115	144
April*	118	118	136	99	109	133	176	142	142
May*	118	146	142	100	147	138	175	143	152
June*	117	129	137	99	122	132	175	151	151
Average									
Latest 3 months	117	131	138	99	126	135	175	145	148
Previous 3 months	120	122	136	102	121	132	176	125	146
Percentage change(2)	—2	+7	+2	—3	+4	+2	—1	+16	+2

* Provisional
(1) At constant prices.
(2) In the case of orders on hand, the percentage changes compare the level at the end of the latest months shown with the corresponding level three months earlier.

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HM Customs seeks views on future of 'Annual Statement of Trade'

THE statistical office of HM Customs and Excise are seeking views on the future of the *Annual Statement of Trade.*

At the beginning of 1970 the classification used for compiling statistics of overseas trade was greatly expanded in number of headings, and the monthly *Overseas Trade Statistics* was also expanded to give information in greater detail and on a more consistent basis.

Even in its expanded form, the monthly *Overseas Trade Statistics* contains only a small proportion of the total of information available about imports and exports. Detailed tabulations are, however, available to subscribers to the Bill of Entry service of the Customs and Excise Statistical Office at a small charge to cover the cost of reproduction.

The *Annual Statement of Trade* provides in five volumes a comprehensive picture of imports and exports in greater detail than the monthly *Overseas Trade Statistics* (as well as providing data by ports), though it is still appreciably condensed compared with the detailed tabulations from the Customs Bill of Entry service. It is a permanent, published record and as such is readily available to the public. However, in the light of the improvements to the monthly *Overseas Trade Statistics* introduced last year and of the increasing use being made of the facilities offered by the Customs Bill of Entry service, it has been decided to review the future of the *Annual Statement of Trade* (including the favourable basis on which its price is at present calculated).

No radical changes will be made until we have obtained views from users of the publication. The 1970 edition will be published in broadly the same form as in previous years though certain alterations will be made in layout and content—predominantly in Volume 1—which reflect the changes referred to above. A list of the contents of the 1970 Annual Statement is enclosed. In its altered shape, Volume 1 will broadly take the form of a volume similar to the December edition of the *Overseas Trade Statistics*, providing revised annual figures which incorporate relevant amendments received after the end of the year. Such a volume will appear in future irrespective of decisions about the rest of the Annual Statement.

The Controller of HM Customs and Excise Statistical Office is inviting comments on the value to users of the *Annual Statement of Trade* in its present form; and for information on any serious inconvenience which would arise if overseas trade statistics were to be available only in the format of the *Overseas Trade Statistics* (including Volume I of the Annual Statement referred to above) and in the detail tabulations from the Bill of Entry service. Comments on either the Annual Statement as a whole and/or on particular volumes would be welcome.

Views should be submitted by October 31 to the Controller, HM Customs and Excise, Statistical Office, Portcullis House, 27 Victoria Avenue, Southend-on-Sea, Essex, SS2 6AL.

Schedule

The information contained in the five volumes of the *Annual Statement of Overseas Trade of the United Kingdom,* 1970 is as follows:

Volume I

1. For Imports and Exports, broad summaries of trade by areas and countries at Division and Section levels of the Standard International Trade Classification (Revised) of the United Nations (SITC (R)) (Tables I and III).
2. For Imports and Exports the main analyses of trade showing information for about 1,300 commodity headings at SITC (R) item or sub-group

(continued on page 405)

ECGD addresses

The Export Credits Guarantee Department's head office is at Aldermanbury House, Aldermanbury, London EC2P 2EL (Tel. 01-606 6699). ECGD has 20 local offices in various parts of the United Kingdom, and these are listed from time to time in *Trade and Industry*.

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- ☐ P68 Miscellaneous packaging products of paper and film (Q)
- ☐ P69/74 Newspapers and periodicals (Q)
- ☐ P5 Paper and paper-making materials (M)
- ☐ P86 Wallcoverings (Q)

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- ☐ P37 Imported timber (M)
- ☐ P85 Shop and office fitting (Q)
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4	An abundance of space.	D	
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FUTURE OF 'ANNUAL STATEMENT OF TRADE'
continued

level, and distinguishing under these headings trade with the Commonwealth, EEC and EFTA Areas and with principal countries (Tables II and IV).
3. Imports and Exports of Gold, and Coin of Gold and Silver (Tables V and VI).

Volume II For each trade description in the official Customs and Excise Tariff, total Imports together with certain country detail.

Volume III For each trade description in the official Customs and Excise Tariff, total Exports together with certain country detail.

Volume IV 1. For Imports and Exports, broad summaries of trade by areas and countries at Division and Section levels of the SITC (R) (Table 1).
2. For each country, total Imports and Exports together with principal commodities (Table II).

Volume V 1. For Imports and Exports, broad summaries of trade by ports at Division and Section levels of the SITC (R) (Table I).
2. For each port, total Imports and Exports together with principal commodities (Table II).

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THE following titles and issues of Business Monitor are now available and copies may be obtained by annual subscription from HMSO, PO Box 569, London, SE1 9NH.

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- Insurance Companies' and Private Pension Funds' Investment for First Quarter 1971.

A complete list of titles of Business Monitors is published on page 403 of this issue.

'Economic Progress Report' for September

THE September issue of *Economic Progress Report* is now available from Circulation Section (H), Central Office of Information, Hercules Road, London, SE1.

The main articles in this issue include an account of the compilation of the general index of retail prices; comparisons of taxation and social security as a proportion of national output in Britain and 13 other leading industrial countries and a summary of the economic measures announced by the Chancellor on July 19. The September issue also contains the monthly economic assessment (see *Trade and Industry*, August 19, page 341).

Economic Progress Report is prepared by the Treasury Information Division.

Registrations of British and foreign films

The following are details of films registered by the Department of Trade and Industry under the Films Acts 1960 to 1970 during the week ended Friday, August 20, 1971. BR/E indicates that the film is a British quota film.

Title of film	Registered No.	Playing time minutes	Date of registration	Registered in the name of	Maker's name
			BRITISH		
Mining Review No. 12—24th year	BR/E 35650/21/8/76	10	August 17	Data Film Distributors Ltd.	National Coal Board
Girl Stroke Boy	BR/E 35651/21/8/76	86	August 17	London Screen Distributors Ltd.	Virgin Film Productions Ltd.
Movietone News 2202	BR/E 35573/21/8/76	7	August 20	Twentieth Century-Fox Film Co. Ltd.	British Movietonews Ltd.
Movietone News 2202A	BR/E 35574/21/8/76	8	August 20	Twentieth Century-Fox Film Co. Ltd.	British Movietonews Ltd.
			FOREIGN		
I Pagliacci	F 35652	79	August 17	Eagle Films Ltd.	Cosmotel A.G. Zug.
Cavalleria Rusticana	F 35653	76	August 17	Eagle Films Ltd.	Cosmotel A.G. Zug.
Fidelio	F 35654	118	August 17	Eagle Films Ltd.	Unitel Productions GmbH Munich
Dracula versus Frankenstein	F 35655	90	August 17	Monarch Film Corporation Ltd.	Eichman Film, Munich and Produccion Jaime Prades, Madrid
The Cremator	F 35656	100	August 19	Contemporary Films Ltd.	Czechoslovak Filmexport, Prague

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San Francisco 'British Week' preparations reaching climax

'If you think the Normandy landings were well organised, wait until you see the work that's gone into British Week,' a leading San Franciscan said recently.

Preparations for the first British Week to be held in the United States are now reaching their climax and on October 1 Princess Alexandra, accompanied by her husband, the Hon. Angus Ogilvy, will officially open the promotion in San Francisco's impressive City Hall. Mr. Michael Noble, Minister for Trade, will attend the latter part of the week.

More than 50 major events have been planned for the British Week, which is being organised by the Department of Trade and Industry in association with the British National Export Council. It is expected that some 400 major shops and stores will take part in this major retail promotion, which will be the consumer highlight of Britain's overall trade drive in California.

The Week promises to be an exciting combination of profit and pageantry . . . profit for the British exporter and the San Franciscan retailer . . . pageantry to attract the two million Bay Area consumers into the British Week 'target areas', downtown San Francisco, the Cannery, Ghirardelli and the Stonestown Shopping Center.

Colourful display

Britain in all its aspects will be on show from October 1 to 9 and some of her finest technological, scientific and industrial achievements blended with colourful aspects of her great historical heritage will be brought together in an exhibition at the Masonic Hall. The 'British Exhibition' will be open for six days and during that time will present the past, present and future.

Highlighting the past will be a remarkable display set in the period of Queen Elizabeth I with some of the most valuable items connected with Sir Francis Drake ever collected under one roof. Britain's outstanding contributions to exploration, science, technology, medicine and transport under Queen Elizabeth II will be the theme of a second part of the exhibition which will include displays on the conquest of Everest, Sir Francis Chichester's world voyage, the South Atlantic Expedition, developments in cryogenics, desalination techniques, 'plastic' metals and nuclear power. On the transport side, VTOL aircraft, Concorde, the Autoland device, hovercraft, ships made of plastic, the Advanced Passenger Train, and the Hovertrain will be featured. Medical progress will be illustrated by such striking developments as the needleless injector, a one million volt electron microscope, and a linear accelerator for cancer treatment.

The London Design Centre has selected some 250 examples of modern consumer goods representing the best in British design in many fields, including furniture, carpets, textiles, light fittings, kitchen equipment, tableware, office equipment, tools, sports goods and toys. All the products shown will be available in the United States and will include design prizewinners.

In a 'Home and Leisure' section more than 30 British firms have taken stands and will welcome trade buyers as well as the public, to see their high quality products. Ten British carpet manufacturers will have individual displays ranging from luxury wool worsted Axminsters to inexpensive colourful rugs. Special new designs and qualities will be launched to cater for the growing contract carpeting field.

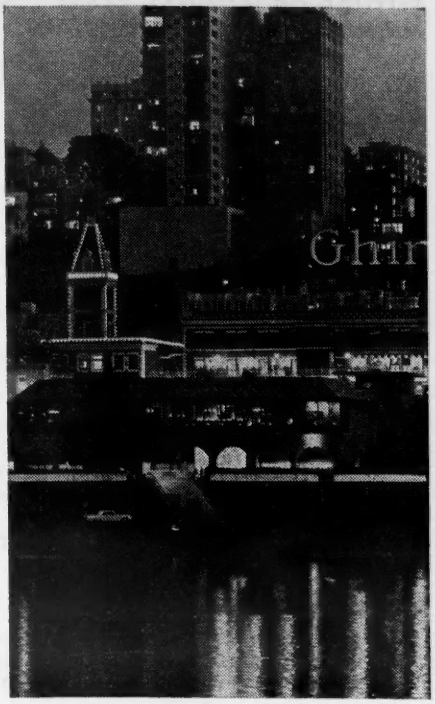
One of Britain's most famous exports to the United States is fine china. Wedgwood and Royal Doulton, will have pottery and china exhibits in the Masonic Hall. Wedgwood will also be sending a potter to demonstrate his craft in one of the San Francisco stores, as also will Spode. Royal Worcester plan to stage their 'Porcelain for Princes' exhibition in one of the leading San Francisco hotels. A glittering display of the best in modern jewellery is being arranged by the Design and Research Centre for the gold, silver and jewellery industries.

One of the added incentives for San Franciscans to visit the Masonic Hall will be a sweepstake, the winner of which will receive two tickets via BOAC to London, First Class rail passes for 15 days' travel on British Rail, plus accommodation and breakfast in British Transport Hotels for a 14-day tour of Britain. The 'Home and Leisure' section at the Masonic Hall will also be running a lottery where many high quality prizes can be won. There will also be a trip to Britain for the American winner of a golf match between Bay Area and visiting British businessmen and for the winner of a Miss San Francisco Stores competition. She will be crowned by Miss London Stores.

There will be a shining galaxy of events throughout the city marking British Week, and many of the main stores and shops are planning to stage imaginative displays and demonstrations.

The official visit of the Lord Mayor of London, Sir Peter Studd, will bring some of the pageantry and pomp of the City of London. With him will be a detachment of the Honourable Artillery Company of Pikemen and Musketeers. Examples of the goldsmiths and silversmiths' art dating back to the Middle Ages will be in San Francisco

(*continued on next page*)



The lights of Ghirardelli Square, reflected in San Francisco's Aquatic Park lagoon. This cosmopolitan compound of shops, restaurants and galleries is one of the target shopping areas for San Francisco British Week.

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'BRITISH WEEK', continued

City Hall, chosen from the City of London Treasures. The treasures are drawn from the collection of the City Corporation, the ancient City Livery Companies and the Bank of England.

The mounting of a miniature 'Son et Lumiere' to tell the story of the City of London will be another feature. There will be an illuminated model of the streets with recorded voices narrating important events in the city's history. Displays will illustrate the story of such great institutions as the Bank of England, the Stock Exchange and Lloyds.

No British Week would be complete without a British pub. In Union Square there will be Tudor inn named the Golden Hind—named after Sir Francis Drake's ship which is reputed to have landed near the present site of San Francisco in 1579. The pub is manufactured by Ayala Designs Limited, Ickenham, and will be shipped in containers to San Francisco. The Golden Hind, which has already attracted local publicity, will serve British beer, cider and spirits.

A familiar British Week personality—Alfie Howard, the town crier—has been sponsored by the Post Street Promenade group of merchants—one of the city's most exclusive shopping areas. Also in the streets will be London buses, British policemen and policewomen, and two British military bands.

Fashions for all

The Clothing Export Council will stage a fashion spectacular in a new and exciting way with models from London, produced by Patricia Laffan and designed by Ken Partridge. After a gala opening on Monday October 4 there will be daily public performances.

The United Biscuits' Highland Games, the Pendyrus Choir from Wales, the London Philharmonic Orchestra, the English Opera Group's performance of Benjamin Britten's 'A Midsummer Night's Dream', the White Heather Concert Party, the opening of the San Francisco International Film Festival with the Cannes Festival winner 'The Go-Between' and a visit by HMS *Blake*, are among the other events that will make British Week, San Francisco, a week to remember.

DTI may organise British Pavilion at Bogota International Fair

THE British Embassy in Bogota has reported that there are promising prospects in Colombia for British exporters in the following sectors:

i mining and quarrying machinery and equipment
ii packaging, wrapping and bottling plant and machinery
iii food processing machinery and equipment
iv textile plant for cotton and man-made fibres
v construction equipment
vi scientific instruments (measuring, calibration, control and analysis)
vii tractors and agricultural machinery
viii plant for producing raw materials for man-made fibres, ie petrochemical and coal derivatives
ix plant for processing man-made fibres for the textile industry
x education aids and systems.

The International Trade Fair, which is held in Bogota every other year, offers an opportunity to firms interested in trying to enter or improve their position in this market. The Department of Trade and Industry is therefore prepared to organise a British Pavilion next year at the IXth International Fair of Bogota (August 5 to 20, 1972) provided there is sufficient response from industry. We propose to concentrate on the above groups in the Pavilion but if space is available we should offer it also to firms in other sectors such as electrical equipment, marine engines, steel products, industrial chemicals and machine tools; opportunities in these areas are likely to be limited to firms which already have a foothold in the market.

If support from industry is forthcoming we shall offer very favourable terms which represent only a fraction of the true cost of organising the Pavilion. Inside space will cost firms £15 a square metre inclusive of rent, stand construction and demolition, general lighting, cleaning and security. Outside space, ready for display, will cost £5 a square metre. There will be a minimum reservation of 15 square metres for each participant.

Firms taking space in their own names (ie not in their local agent's names) will also be eligible for assistance towards the cost of the fares of not more than two representatives sent to man the stand; and towards the cost of return freight of unsold exhibits.

Because of the time required for preparing the Pavilion we shall need to know by October 31, 1971 at the latest how many firms want to take part. If you are interested, or if you would like more information, please get in touch as soon as possible with Miss Frances King, Fairs and Promotions Branch, Department of Trade and Industry, Hillgate House, 26 Old Bailey London EC4 (Tel. 01-248 5757 Ext. 7092).

Good results from Australian Engineering Show

From the British High Commission, Melbourne

THE 6th International Engineering Show held at the Exhibition Buildings, Melbourne from August 2-7 proved to be a meeting place for the metal engineering industry. Some 200 companies displayed a wide range of equipment used in Australia's largest secondary industry.

The exhibits covered general machinery, materials handling, general tools, hydraulic and pneumatic equipment, electrical and electronic equipment and allied products plus the necessary ancillary items such as drawing and drafting equipment, instruments, cleaning, and optical and testing equipment to name but a few.

Australian visitors came from places as far afield as Perth and Brisbane. BOAC and Qantas provided special arrangements for buyers from Europe. A trade delegation arrived from Japan especially to see the Show. New Zealand and South-East Asia were also well represented by buyers who came to see products valued at more than $5 million from 15 countries. The Show was principally sponsored by the Metal Trades Industry Association of Australia and the Melbourne Chamber of Commerce. Entrance was by invitation to the trade and nearly 23,000 persons attended over the six days.

The Show was expected to provide a stimulus to the Australian export trade and the Minister for Labour and National Service, Mr. P. Lynch, who performed the opening ceremony, emphasised its importance. He inspected the latest production equipment on display.

There were three national exhibits. These were the British Joint Venture Group sponsored by the London Chamber of Commerce and the Department of Trade and Industry, a combined display of some 30 exhibits arranged by the Italian Institute for Foreign Trade and the Ontario Provincial Government stand with 12 displays.

On the British stand there were 15 exhibitors and an Information stand manned by the London Chamber of Commerce. Trade journals covering a wide range of engineering subjects were available for interested visitors.

Successful display

Overall, British exhibitors expressed satisfaction with the results achieved. Many sold equipment they had on display. In a Show of this nature 'over the counter' sales are few; however most exhibitors had a number of useful inquiries which will need to be followed up by their Australian representatives. Generally the opinion was expressed that the event attracted the right type of visitor. This is important as Australia represents a large and expanding market.

Two British exhibitors who were visiting Australia for the first time were both able to conclude agency arrangements through their participation. British companies displaying machine tools reported sales and good prospects for further business.

Some British exhibitors took the opportunity of introducing a number of new products to Australia which were subjected to close scrutiny by buyers and it is understood sales are likely in the near future.

The Show was definitely a success and credit must be given to the organisers, Industrial Trade Fairs Pty Ltd.

'New Look' Motor Show

LONDON'S 1971 International Motor Show will take on a more colourful appearance than in previous years when the doors of Earls Court open on October 20 for 10 days. The word 'Show' rather than exhibition applies more than ever this year with the addition of many new features that will surround the new and revised cars of companies from over a dozen countries.

The ground floor of Earls Court, an area of half-a-million square feet, will house over 70 stands of the world's car and carriage work manufacturers.

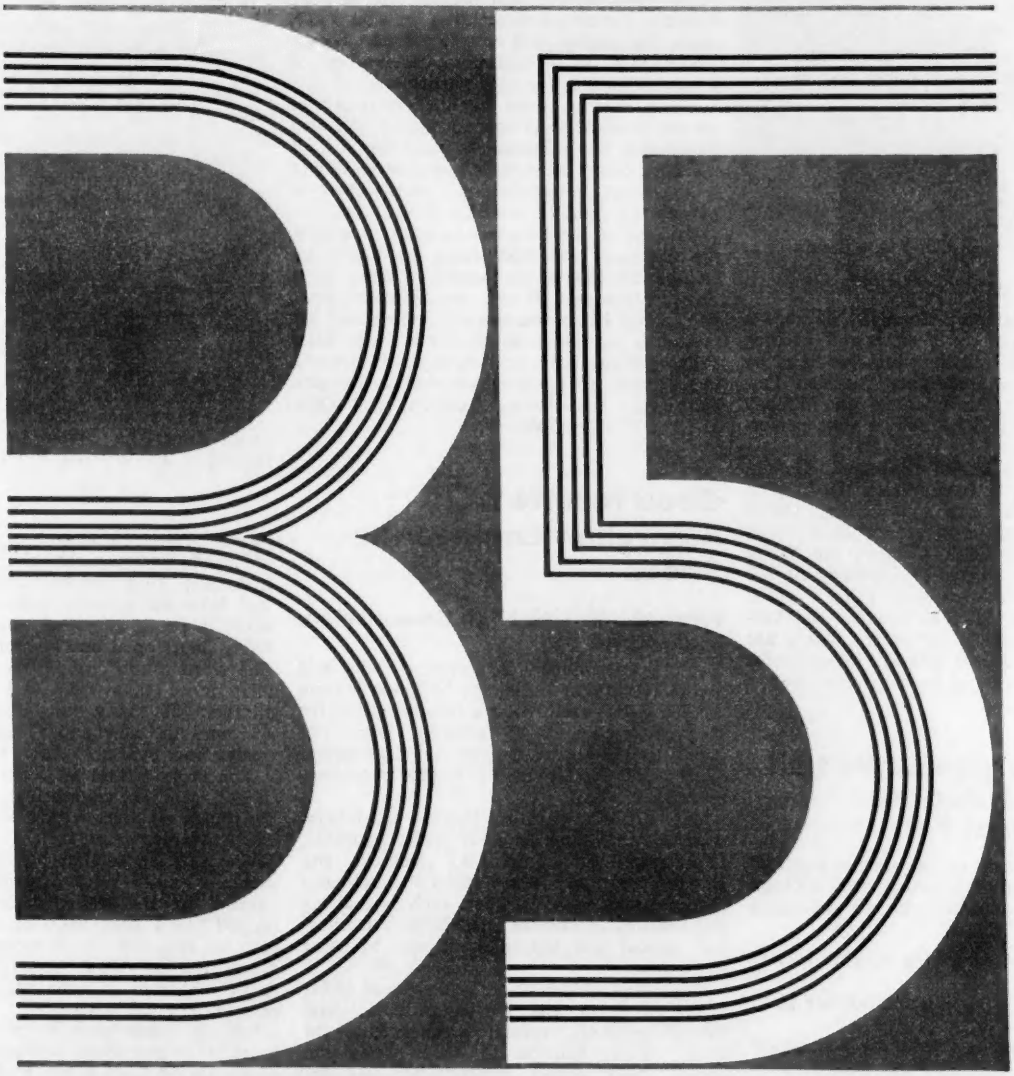
The caravan section has been reduced to include only motor caravans—the area vacated by the trailer caravans being employed for a new 1,000 sq ft Motor Show feature covering in-car-entertainment. This group stand, 'The In-Car Entertainment Explosion', will include major cartridge and cassette tape manufacturers.

Several other new show attractions are planned, among them a $10,000 exact replica of the David Scott-James Irwin Lunar roving vehicle. Other exhibits on the ground floor include motoring magazines and motoring organisations offering services to the industry and the motorist.

On the balcony which overlooks the main hall, a host of the latest accessories, components and servicing equipment will be shown, together with a still-secret special display feature in place of the tyre manufacturers, most of whom will not be at the 1971 Show.

The 1971 Show is the 56th International Motor Show organised by the Society of Motor Manufacturers and Traders and the 34th held at Earls Court.

THE TRADE FAIRS THAT MATTER CAN BE COUNTED ON THE FINGERS



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'Looking like business' exhibition at the Design Centre

TWO RELATED exhibitions under the joint title 'Looking like business' will be held at The Design Centre, London, from September 15 to October 23. They will both show case studies of companies in widely differing fields to illustrate how design is used by management to support their corporate development and marketing strategies.

One of these displays will show the design policies and achievements of the companies winning the 1971 Presidential Awards for Design Management awarded by the Royal Society for the Encouragement of Arts, Manufactures and Commerce; the winners are to be announced on September 15. These awards are made every two years to British companies and organisations of all kinds in recognition of the successful implementation of corporate policies which have led to outstanding achievements in design over the full range of their operations.

The other display will describe a series of corporate identity programmes explaining the need for design skills to give visual expression to the changes which are now taking place in industry. It will explain the role of corporate identity design as part of the total communications methods which companies today use to carry out their business effectively. Case histories will be drawn from manufacturing, retailing and service industries and will include Smit International (the towage and salvage firm), APT Grocers Ltd., BXL Bakelite Xylonite Ltd., National Westminster Bank Ltd. and Bovis Holdings Ltd.

During the run of the exhibition the Council of Industrial Design is also organising a two-day conference on 'Corporate Identity—its organisation and management'. To be held in London on September 22-23, the conference will explore the management processes required in planning, organising and implementing corporate identity programmes and will include case studies of the programmes for Crown Products, the Blue Circle Group and Unigate Ltd. The Council of Industrial Design is also publishing in September a book about corporate identity based on case histories and other material from previous CoID conferences.

International participation at Business and Light Aviation Show

THE list of exhibitors who have booked space at Cranfield for the *Flight International* sponsored Business and Light Aviation Show (September 1-5) indicates that the range of aircraft and equipment to be seen will be one of the biggest ever assembled at a British general aviation exhibition.

The presentation will be truly international state the organisers, with all the leading American manufacturers exhibiting either in their own right or by supporting their United Kingdom distributors. Gates Learjet will exhibit a German-based Model 24 in association with Eagle Aircraft Services, who will themselves have a wide range of Beech products on view. Cessna's European marketing organisation in Brussels will augment the line-up to be shown by Rogers Aviation.

In addition to representing Piper and Bell, CSE will feature the support capability which is offered at their Oxford base. The largest aircraft on view will be those with either third-level or executive capability, including Jetstream, Yak-40, Skyvan and Islander, and European executive jets will be represented by two HS.125s and the Dassault Falcons.

Among the light aircraft on show will be the Monsun from Germany, and models from Socata, France, and Siai-Marchetti, Italy.

Helicopter Marketing will be presenting the Bölkow Bö105 for the first time in England.

Equipment exhibits will range from complete engines, through avionics, simulators and headsets to the vital services such as flight documentation and finance.

'Atoms for Development' on show in Geneva

OVER 50 British Government organisations and private companies have contributed equipment, material and information which will be incorporated in the United Kingdom stand at an international atomic energy exhibition in Geneva from September 6-16.

The 'Atoms for Development' exhibition at the Palais des Expositions will be associated with the Fourth International Conference on the Peaceful Uses of Atomic Energy which is to be held under United Nations auspices at the Palais des Nations between the same dates.

More than 60 governments are to take part in the Geneva Conference, which is expected to attract several thousand delegates, observers, journalists and members of the general public. The nations taking part in the exhibition (in addition to the United Kingdom) will be: Australia, Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, Finland, France, India, Japan, Italy, Liechtenstein, Luxembourg, the Netherlands, Norway, Romania, Sweden, Switzerland, the United States, and Russia.

The United Kingdom exhibit has been designed to provide a representative cross-section of the practical applications of atomic energy, with examples drawn from a wide range of British sources. Organisations participating in the composition of the display include the electricity generating boards, a number of Government research laboratories, the United Kingdom Atomic Energy Authority and more than 40 industrial and commercial firms, including the two reactor design-and-construction companies—British Nuclear Design and Construction Ltd., and The Nuclear Power Group—British Nuclear Fuels Ltd. and The Radiochemical Centre Ltd.

The display, which will cover 6,700 sq. ft., will be divided into five main sections: power reactors; nuclear fuels; components and instrumentation; radioisotope applications; research and development.

First Penguin bookshop for Hamburg

PENGUIN BOOKS are planning to open their first ever Penguin bookshop in Germany at the Frensch Buchhandlung am Rathausmarket to coincide with the British Trade Week in Hamburg. Penguin Books have always sold well in Germany, but this Hamburg bookseller is the first to incorporate a separate Penguin bookshop within his establishment. If the Hamburg venture is successful, then it is highly likely that other German booksellers will follow suit, with the result that the sale of English paperbacks will expand fast in Germany. The 1972 South German Trade Drive, for example, will provide ample opportunity for enterprising British firms, like Penguin Books, to promote and increase their sales in a thriving, and therefore rewarding, market.

The 1971 ACE awards for commendable effort in exporting, given annually by the Export Council for the Jewellery and Giftware Industries, were presented by Prince William of Gloucester at the third International Gifts Fair London at Earls Court (August 8-12). Seen here are (left to right) Mr. Ivor Collins, sales director of the Hatton Chain Co., London—one of the two companies winning an award—receiving the trophy from Prince William of Gloucester.

The Pipeline Engineering Exhibition and Convention 1973

BRINTEX EXHIBITIONS LTD.—organisers of the Pipeline Engineering Exhibition & Convention (PIPEX)—have announced the dates for the seventh appearance of the event. It is to be held at Earls Court, from June 5-8, 1973. The exhibition will now be sponsored by The Council of British Manufacturers of Petroleum Equipment.

PIPEX was originally scheduled to be held in June 1972 and the dates were announced at the close of the last appearance (in June 1970). After consultation with the exhibitors, however, and a detailed study of events planned for the years 1972-3, the organisers decided that the new dates would be more acceptable to the industries concerned.

The sixth appearance of the exhibition in 1970 attracted a visitor-attendance of 9,063—including very nearly 2,000 visitors from abroad (approximately 22 per cent of the total)—drawn from 27 countries.

Optimism in electronics at IEA show

BOOKINGS for the International Instruments, Electronics and Automation Exhibition at Olympia, London, next year (May 8-12, 1972) already include more than a score of companies who are new to the show.

'A feature of the early IEA bookings is the number of regular exhibitors who have increased their stand space,' said a spokesman for Industrial Exhibitions Ltd., the organisers. 'We believe that this indicates a continuation of the optimistic outlook for the future of the electronics industry which was shown earlier this year at the London Electronic Components Show.'

At the last IEA, in 1970, there were 812 exhibitors, 266 of them from abroad.

Enthusiastic reception for Environmental Health event

JUST over two-thirds of the available space at the 1971 Environmental Health Exhibition —which is to be held this year at Devonshire Park, Eastbourne from October 5-7—was taken up three months before opening date according to a report from the organisers, Brintex Exhibitions Ltd.

EXPORT ORDERS

Delayed action

Although exporting can be profitable, it can also be frustrating, as witness a £70,000 order for multi-purpose cages which Thornbers, of Mytholmroyd, Halifax, received recently from Yugoslavia.

'We quoted for this order in October 1969, and then visited Yugoslavia to discuss installation and service arrangements,' says Mr. Derrick Kitchen, export manager. 'The whole thing then went completely dead and we heard nothing more until the order arrived on my desk last week. I'm just thankful that we're still making the particular cage involved, otherwise we would have had to start negotiations all over again.'

Brewery in Seychelles

Costain Civil Engineering Ltd. is to build the first brewery in the Seychelles Islands under a £200,000 contract awarded by Seychelles Brewery Ltd., a company whose principal shareholders are Haase Brauerei of Hamburg, Guinness (Overseas) Ltd., East African Breweries and Allied Maltsters. The brewery is to be located on Mahe, main island in the Seychelles group.

Saudi Arabian contract

J. A. Story & Partners, Mitcham, Surrey, have been awarded a contract by the Ministry of Petroleum and Mineral Resources in Saudi Arabia in connection with the National Geographical Net Maintenance project. The work requires the co-ordination of approximately 5,000 stations covering a length of 15,000 kilometres; also included is the geodetric levelling of 300/400 kilometres of bench marks and the establishment of tide gauges and magnetometers. The project, valued at about £200,000, is expected to take two years.

Computers for Malaysia

Computers and ancillary equipment worth over £200,000 are to be delivered to British Overseas Airways Corporation by Ferranti Ltd., for incorporation in a major computer-based passenger reservation system which BOAC are supplying to Malaysia-Singapore Airlines.

The equipment, to be supplied by the Automation Systems Division of Ferranti at Wythenshawe, Manchester, will be made up of five Ferranti Argus computers almost identical to those already in use in Europe and North America as part of BOAC's own Boadicea international passenger reservation system.

Print orders

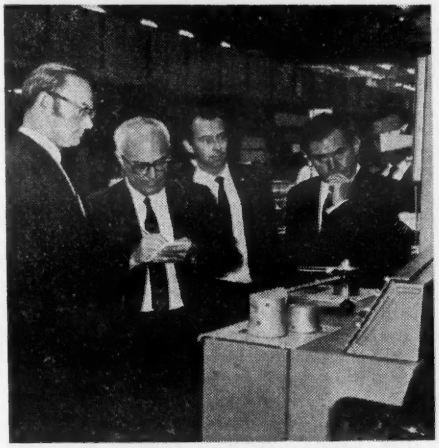
Orders worth more than £100,000 from the United States, Holland and Sweden have been won by Sun Printers Ltd., Watford. The jobs are the result of the combined sales efforts of Sun Printers and the British Printing Corporation's commercial department. Mr. Roy Smith, managing director of Sun Printers, recently visited the United States and Germany, and Mr. Patrick White, export manager, returns to the United States shortly.

Another BPC company, Petty & Sons, Leeds, recently announced a £200,000 job for France, and other BPC companies with significant export business are Purnell & Sons; Paulton, near Bath; and Hildesley Ltd., London.

Sauce for United States

Hammonds Sauce Co. Ltd., of Shipley, Yorks., recently exported their 500,000th bottle of sauce to the United States. It was a part of a containerload of 36,000 bottles destined for Reese Finer Foods Inc., distributors, of St. Louis, Missouri.

Hammonds, producers of nine different brands of thick brown sauces, began exporting to the United States in containers just over 18 months ago. This latest 20-ft. containerload, transported by Dart Containerline Ltd. and valued at £3,000, was representative of regular shipments which leave for New York every month.



Mr. J. F. Jeffcoat, assistant chief mechanical engineer of Queensland Government Railways, visited the Manchester and Preston plants of English Electric-AEI Traction Ltd. on August 3/4 for general discussions and the inspection of equipment currently in production for QGR locomotives. Since 1952, the company has designed and built some 150 main line diesel-electric locomotives for Queensland, out of over 800 EE-AEI equipped diesel locomotives in service on other Australasian railways. Picture shows Mr. Jeffcoat (second from left) inspecting a driver's control desk at the company's Preston works.

£124,000 Malaysian order

Pye TMC has received a further order, valued at £124,000, under a five-year agreement with the Malaysian Posts, Telegraph and Telecommunications Department to provide equipment for its national telex networks. Under the agreement, not yet two years old, the Malaysian PTT has now placed orders for voice frequency telegraph multiplex totalling nearly £250,000.

£30,000 order from Iraq

Kode Ltd., Calne, Wilts., announce an order worth more than £30,000 for machines, spares and special tools from the National Electricity Administration Computer Centre, Baghdad. The order—Kode's first from the Middle East—was placed through the National Cash Register Company (Iraq) WLL. It was for 72B punches, 72B verifiers and M33 ASR terminal teletypes.

Mr. Reg Watkins, the company's marketing director, comments: 'The order involved producing some of the keyboards of the punches and verifiers with Arabic characterisation, but we were able to meet this requirement and complete on time.'

Tribute to British Trade offices

Roy Manns, Salmon & Associates, consulting engineers of Brighton, have received a duplicate order from General Electric of the United States for the design and construction in Britain of five moulds valued at $55,000 for delivery in January 1972. This is a repeat of a $125,000 order executed by RMSA for the same company in June this year. This was done in a record time of 20 weeks from the start, notwithstanding Christmas break and postal strike.

Executives of RMSA now travel every month to the United States to keep in touch with existing clients and new clients. The company started only 20 months ago and began exporting to the United States with the help of the British Trade Development offices there. About 90 per cent of the company's business has been as a direct result of introductions through the BTD offices.

Australian contracts

William Press has been awarded three contracts worth $A3.7 million. These include a propylene derivatives plant for Dow Chemical, Altona, Melbourne; a clarification installation for alumina plant for Kaiser Engineering in Queensland; and a pumping station for a new Melbourne sewerage complex.

The company has been working on the Australian market for two years, gradually building up the scale and scope of operations.

Rise of 92 per cent

Exports of the Dunlop Belting Division reached a new level in the first half of the current year and rose 92 per cent over the corresponding six months of 1970.

This impressive increase in sales of transmission and conveyor belting for industrial and mining applications was achieved despite intensive competition in all overseas markets. Among the buoyant areas was Eastern Europe, where exports exceeded £500,000.

Pakistan airport order

G. Hunter (London) Ltd., Grays, Essex, have won an order to supply an air pallet handling system to Pakistan International Airlines for installation at the PIA cargo terminal at Karachi Airport. The £15,000 order, for three liftables and associated conveyor and weighbridge equipment, follows the successful operation of an identical Hunter system at the PIA cargo terminal at London's Heathrow Airport.

Presses for Russia

Fielding & Platt Ltd., Gloucester, a member of the Redman Heenan International Group, have received an order from U/O Stankoimport of Moscow to supply two further 500-ton flanging/joggling presses. This latest Russian order, valued at over £100,000, will bring the total number of this type of press supplied to the USSR to 20, the earlier units forming part of a £1.5 million contract placed with the firm some few years ago.

Peruvian irrigation project

An agreement was recently signed in Peru by the Peruvian Government appointing Binnie & Partners of London, in association with CORPEI, a Peruvian firm of consulting engineers, as the Government's supervisory engineers for the design and construction of the £55-million Chira-Piura irrigation project near the Pacific coast in north Peru.

TRADE INFORMATION

In many cases further information on the notices published on these pages is available from the Department of Trade and Industry. The main branches concerned are: Commercial Relations and Exports (CRE) Division, DTI, 1 Victoria Street, London SW1H 0ET (Tel: 01-222 7877); and Export Services Division (ESD) and Export Data Branch (EDB), both at DTI, Export House, 50 Ludgate Hill, London EC4M 7HU (Tel: 01-248 5757). In each case, the relevant information source is indicated at the end of the notice by its initials (CRE, ESD or EDB) and the appropriate telephone extension number. In the Tariff and Trade Notices section countries are grouped by continents as far as possible; they are listed alphabetically on the contents page.

CONGO (KINSHASA) AND UNITED KINGDOM: A notice in *Trade and Industry* of June 23 (page 652) advised of the entry into force from March 17, 1971 of the Congo (Kinshasa)/United Kingdom Commercial Agreement. The date of entry into force of the Agreement has now been changed to June 22, 1971. The text of the Agreement has been re-published as Command Paper 4751. A copy of this command paper is available from Her Majesty's Stationery Office, price 10p.

TUNISIA AND ROMANIA: The Tunisian *Journal Officiel* of July 9, announced the renewal for a further year from February 18, of the trade agreement of 1964 between Tunisia and Romania. Under the terms of the agreement Tunisian exports to Romania will include phosphates, iron ore, and raw hides and skins whilst Romanian exports to Tunisia will include ammonium nitrate, paper and construction machinery.

EDB Ext. 466, 467, 482

TUNISIA AND PAKISTAN: The Tunisian *Journal Officiel* of July 9, announced the renewal for a further year from April 1 of the trade agreement of 1965 between Tunisia and Pakistan. Under the terms of the agreement, Pakistan exports to Tunisia will include cotton textiles and jute whilst Tunisian exports to Pakistan will include citrus fruit, and phosphates.

EDB Ext. 420, 475

TUNISIA AND NORWAY: The Tunisian *Journal Officiel* of July 2, announced the renewal for a further year from April 1 of the trade agreement of 1960 between Tunisia and Norway. Under the terms of the agreement, Tunisian exports to Norway will include citrus fruit and canned fruit and vegetables whilst Norwegian exports to Tunisia will include paper, tunny fish and beer.

EDB Ext. 458/9

POLAND AND ALBANIA: The Polish Ministry of Foreign Trade have announced that a trade agreement covering the years 1971-75 was signed in Tirana on July 7, 1971. It is envisaged that the level of trade in the next five years will be higher than in the past five years. Polish imports from Albania will include asphalt, chromium ores, copper and copper products, fruit vegetables, vegetable products, agricultural products and foodstuffs as well as tobacco. Albania's imports from Poland will include machinery and equipment, coke, metal products, chemical materials and certain industrial products.

EDB Ext. 466, 467, 482

POLAND AND CHILE: A four-year trade and payments agreement between Poland and Chile, the first of its kind, was signed in Warsaw in June. Both parties to the agreement will extend to each other most favoured nation treatment in trade and payments. The signatories have also undertaken to grant each other all facilities in the promotion of trade, technical facilities, participation at fairs, etc. It has furthermore been agreed that Polish companies will participate in the expansion of the Chilean ship-building industry, the production of cutting tools, certain branches of the chemical industry, and the coal and metallic ore mining industries, with special emphasis on copper.

Poland's exports to Chile will include various items of machinery, industrial, mining and farming equipment, precision instruments and scientific apparatus. Chile's exports to Poland will include fish meal, metallurgical and copper products, zinc concentrates and various industrial and agricultural products and foodstuffs.

EDB Ext. 474, 476, 7312

INDIA AND SUDAN: A Trade Agreement between India and the Sudan was signed in Khartoum on June 9. The Agreement provides for an increase of 22 per cent in trade between the two countries. Sudanese goods covered by the Agreement include cotton, gum Arabic and raw hides, while Indian products include tea, jute manufactures, textiles, spices, lentiles and certain non-traditional items, eg engineering goods.

EDB Ext. 420, 475

HINTS TO BUSINESS MEN BOOKLETS: Revised editions of the booklets on Iraq, Liberia, Nigeria, Irish Republic, Poland, Tanzania and Uganda & Rwanda have been published in the 'Hints to business men' series.

British business men who intend visiting these countries on export business can obtain copies of the booklets on application to Export Services Division, Department of Trade and Industry, Room CO7, Export House, 50 Ludgate Hill, London EC4M 7HU, telephone: 01-248 5757, ext. 7146, or to any Regional Office of the Department of Trade and Industry.

JANCO جانكو

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IVORY COAST AND TUNISIA: An additional protocol to the commercial agreement between Tunisia and the Ivory Coast was signed on March 12 1971. Tunisia will export to the Ivory Coast industrial products; fruit and vegetable preserves and a much greater quantity of cement. Tunisia will import from the Ivory Coast bananas, cocoa, pineapple preserves and wood.

EDB Ext. 471/2/3

ECGD BACKS £5.5 MILLION CONTRACT FOR VENEZUELA CANE SUGAR FACTORY: The Export Credits Guarantee Department has signed a Financial Guarantee covering the financing of a contract for the design, supply of equipment, installation and erection of a cane sugar factory to be built at Yacaruy, Venezuela. The contract, worth over £5.5 million, is between The Mirrlees Watson Company Ltd., and C.A. Central Rio Turbio. Manufacture of the plant and machinery will start immediately and delivery is scheduled to enable commissioning of the factory in February 1973. The Financial Agreement, under which a loan of £4.69 million is being made available to finance the contract, was signed in Caracas between Antony Gibbs & Sons Ltd. and C.A. Central Rio Turbio. Antony Gibbs are acting on behalf of a syndicate of banks comprising Clydesdale Bank Ltd., Lloyds Bank Ltd. and The Royal Bank of Scotland Ltd. The loan is repayable over a period of eight years from the scheduled date of commissioning.

TARIFF & TRADE NOTICES

European Communities

COMMON AGRICULTURAL POLICY: The texts of the following Regulations, Directives and Decisions which affect the various sectors in the EEC have been published in the *Journal Officiel des Communautés Européennes.* The French texts of these Regulations etc. may be seen on application.

Directive 71/285/CEE modifies the Directive of June 26, 1964 relating to problems of public health as regards intra-Community trade in cattle and pigs (*Journal Officiel* No. L179 dated August 9, 1971).

Decision 71/292/CEE modifies the Decision of the Commission of March 18, 1969, appointing veterinary experts who may be entrusted with the preparation of statements of opinions concerning slaughterhouses and cutting-up premises (*Journal Officiel* No. L179 dated August 9, 1971).

Wines

Regulation (CEE) No. 1598/71 modifies Regulation (CEE) No. 1093/70 in so far as it concerns the addition of alcohol to the list of products of the wine sector (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1599/71 lays down the additional conditions applicable to imported wines intended for immediate human consumption (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1748/71 relates to the exceptional grant of aid for changing the place of storage of table wine under storage contract (*Journal Officiel* No. L180 dated August 10, 1971).

Cereals and rice

Regulation (CEE) No. 1604/71 relates to the procedures applicable to the export levy on starch (amylaceous) products in accordance with Article 2 paragraph 2 of Regulation 371/67/CEE (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1605/71 modifies Regulation (CEE) No. 2637/70 relating to special procedures applicable to the system of import, export and prefixation certificates in so far as it concerns the cereals sector (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1606/71 modifies certain feed-conversion coefficients of the Annex of Regulation (CEE) No. 1052/68 relating to the import and export system of processed products with a cereals and rice base (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1608/71 modifies Regulation (CEE) No. 467/67 in so far as it concerns the processing costs relating to the various stages of rice processing (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1609/71 determines the rice marketing centres other than Arles and Vercelli for the 1971-2 marketing year (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1610/71 modifies Regulation (CEE) No. 470/67 in so far as it concerns the corrective amounts and the basic yield after the processing of certain types of rice (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1611/71 fixes for the 1971-2 marketing year the variety of long grain rice characteristic of Community production, the differences in value between the former and round grain rice corresponding to the standard quality, the threshold price of long grain husked rice and the threshold price of blanched rice (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1612/71 fixes for the 1971-2 marketing year the amounts to be taken into consideration for adjusting the import levies and export refunds fixed in advance on rice (*Journal Officiel* No L168 dated July 27, 1971).

Regulation (CEE) No. 1613/71 lays down the procedures for determining the c.i.f. prices and levies on rice and brokens as well as the corrective amounts relating thereto (*Journal Officiel* No. L168 dated July 27, 1971).

Regulation (CEE) No. 1614/71 modifies Regulation (CEE) No. 2637/70 in so far as it concerns the period of validity of the import certificates for round grain rice (*Journal Officiel* No. L168 dated July 27, 1971.

Regulation (CEE) No. 1737/71 modifies Regulation (CEE) No. 1492/71 laying down the procedures and conditions for the taking over of cereals by the intervention agencies (*Journal Officiel* No. L178 dated August 7, 1971).

Correction

The *Journal Officiel* No. L180 dated August 10, 1971, contains a correction to Regulation (CEE) No. 1604/71 on procedures for the application of a levy on exports of starch (amylaceous) products in accordance with Article 2 paragraph 2 of Regulation No. 371/67/CEE.

Fruit and vegetables

Regulation (CEE) No. 1738/71 relates to the non-application of the system of import certificates for the import of tomato purée coming from third countries (*Journal Officiel* No. L178 dated August 7, 1971).

Directive 71/286/CEE concerns statistical surveys to be carried out by member States with a view to determining the production potential of orchards of certain species of fruit trees (*Journal Officiel* No. L179 dated August 9, 1971).

Sugar

Regulation (CEE) No. 1739/71 relates to the reopening of the standing adjudication concerning exports of white sugar provided for in Regulation (CEE) No. 1734/70 (*Journal Officiel* No. L178 dated August 7, 1971).

EDB Ext. 7174, 408

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IMPORTS FROM NON-MEMBER COUNTRIES: Decision 71/287/CEE authorises France to exclude from Community treatment powdered leeks (CCT. No. 07.04 ex B) originating in China and freely circulating in the other member States (*Journal Officiel* No. L179 dated August 9, 1971).

Decision 71/288/CEE authorises France to exclude from Community treatment loudspeakers and audio-frequency electric amplifiers, radio broadcast receivers whether or not combined with sound recorders and reproducers (CCT. Nos. 85.14 B, 85.15 A ex III and 92.11 A III) originating in Japan and freely circulating in the other member States (*Journal Officiel* No. L179 dated August 9, 1971).

Decision 71/289/CEE authorises France to exclude from Community treatment urea (CCT. Nos. 29.25 A I and 31.02 B) originating in Albania and Bulgaria and freely circulating in the other member States (*Journal Officiel* No. L179 dated August 9, 1971).

Decision 71/290/CEE authorises Italy to exclude from Community treatment film in rolls, sensitised, unexposed and primary cells and primary batteries (CCT. Nos. 37.02 and 85.03) originating in Japan and freely circulating in the other member States (*Journal Officiel* No. L179 dated August 9, 1971).

Decision 71/294/CEE authorises Italy to exclude from Community treatment ball, roller or needle roller bearings (CCT. No. 84.62) originating in the Eastern bloc countries and freely circulating in the other member States (*Journal Officiel* No. L179 dated August 9, 1971).

Decision 71/296/CEE authorises France to exclude from Community treatment knitted and crocheted goods of textile materials other than cotton (CCT. Nos. 60.02, 60.04 B and ex 60.05) originating in Hong Kong and freely circulating in the other member States (*Journal Officiel* No. L179 dated August 9, 1971).

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TARIFF QUOTAS: The *Journal Officiel* No. L180 dated August 10, 1971, contains the text of Regulation (CEE) No. 1742/71 relating to the annual Community tariff quota for 5,000,000 uc. (uc.=unites de compte—present value US $1) of certain hand-made articles at a 'nil' rate of duty from September 1, 1971.

Because the EEC began to implement the UNCTAD Generalised Preferences Scheme on July 1, 1971 in favour of developing countries, amongst which are the beneficiaries of the above quota, the present Regulation is limited from September 1, 1971 to December 31, 1971. The amount of the tariff quota set up corresponds to one-third of the annual amount, ie 1,666,667 uc. The quota is allocated on the following basis:

Germany	333,250
Benelux	333,250
France	333,250
Italy	333,250

The remaining one-fifth will form a reserve.

Common Customs Tariff No.	Description of goods
42.02	Travel goods (for example trunks, suit-cases, hat boxes, travelling-bags, ruck-sacks) shopping bags, handbags, satchels, brief cases, wallets, purses, toilet cases, tool cases, tobacco pouches, sheaths, cases, boxes (for example, for arms, musical instruments, binoculars, jewellery, bottles, collars, footwear, brushes) and similar containers of leather or of composition leather, of vulcanised fibre, of artifical plastic sheeting, of paperboard or of textile fabric: ex B. Of material other than artifical plastic
42.03	Articles of apparel and clothing accessories, of leather or of composition leather: ex C. Other clothing accessories
ex 44.24	Household utensils of wood
ex 44.27	Fancy goods and cabinets (boxes, caskets, cigarette boxes, jewellery boxes, pencil boxes, portmanteaux, standard lamps, and other lighting fittings, etc.), ornaments, racks and articles of wood for adornment; parts of the foregoing articles of wood
48.21	Other articles of paper pulp, paper, paperboard or cellulose wadding: ex B. Other
59.02	Felt and articles of felt, whether or not impregnated or coated: ex B. Other: Carpets, rugs
ex 61.06	Shawls, scarves, mufflers, mantillas, veils and hat-veils, and similar articles
ex 64.05	Parts of footwear (including uppers, in-soles and screw-on-heels) of any materials except metal
ex 66.02	Walking sticks (including climbing sticks and seat-sticks), whips, riding crops and the like
68.02	Worked monumental or building stone, and articles thereof (including mosaic cubes), other than goods falling within heading No. 68.01 or within Chapter 69: A. Worked monumental or building stone: ex IV. Carved
ex 74.18	Cooking and heating apparatus of a kind used for domestic purposes, not electrically operated, and parts thereof, of copper
ex 74.19	Other articles of copper
ex 83.06	Statuettes and other ornaments of a kind used indoors, of base metal
83.07	Lamps and light fittings, of base metal, and non-electrical parts thereof of base metal: ex B. Other
ex 83.10	Beads and spangles, of base metal
ex 83.11	Bells and gongs, non-electric, of base metal, and parts thereof, of base metal
ex 94.03	Other furniture and parts thereof
95.01	Worked tortoiseshell and articles of tortoiseshell: ex B. Other
95.02	Worked mother-of-pearl and articles of mother-of-pearl: ex B. Other
95.03	Worked ivory and articles of ivory: ex B. Other
95.04	Worked bone and articles of bone: ex B. Other
95.05	Worked horn, coral (natural or agglomerated) and other animal carving material, and articles of horn, coral (natural or agglomerated) or of other animal carving material: C. Other animal carving material, worked: ex II. Other
95.06	Worked vegetable carving material (corozo, nuts, seeds, etc.) and articles of vegetable carving material: ex B. Other
95.07	Worked jet (and mineral substitutes for jet), amber, meershaum, agglomerated amber and agglomerated meershaum, and articles of those substances: ex B. Other
97.02	Dolls of all kinds: ex A. Dolls (dressed or not)—ornamental dolls dressed in the national costume of their country of origin
97.03	Other toys; working models of a kind used for recreational purposes: ex A. Wooden

The French texts of the Regulation referred to above may be seen on application.

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Spain

OPENING OF GLOBAL QUOTAS: The Spanish global quotas for 1971 were published in *Trade and Industry* dated January 20. The Spanish authorities have now invited applications from Spanish importers, merchants and industrialists against the following quotas for the second half of 1971. Applications against quota Nos. 10 to 21 should be presented before September 11, against quota Nos. 22 to 32 before September 12, and against quota Nos. 33 to 55 before September 13.

Quota no.	Goods	Value of licence for which applications are invited (pesetas)
10	Inorganic chemical products	33,275,000
11	Organic chemical products	26,620,000
13	Varnishes, inks, pigments and similar preparations	23,292,500
14	Perfumery, toilet and cosmetic preparations	13,310,000

(*continued on next page*)

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SPAIN
continued

Quota no.	Goods	Value of licence for which applications are invited (pesetas)
15	Tensoactive preparations, preparations for lyes, lubricating preparations, glues and miscellaneous products of the chemical industries, not liberalised and not included in other quotas	69,877,500
16	Phenoplast and furane resins	29,947,500
17	Aminoplasts	19,965,000
18	Other condensation, polycondensation and polyaddition products	19,965,000
19	Styrene and derivatives products (polymerisation)	9,982,500
20	Polyvinyl chloride	19,965,000
21	Other polymerisation and copolymerisation products	36,602,500
22	Manufactures of artifical plastic materials, of cellulose esters and of artificial resins	29,947,500
23	Non liberalised wood manufactures	8,984,250
24	Miscellaneous textile fibres	7,320,500
25	Yarns of miscellaneous textile fibres	10,980,750
26	Coconut yarns	29,947,500
27	Fabrics of miscellaneous textile fibres	50,977,300
28	Tulle, lace, velvet and knitted goods	11,646,250
29	Special fabrics	10,548,175
30	Carpets and rugs	4,991,250
31	Ready-mace clothing	13,310,000
32	Other textile manufactures	8,318,750
33	Articles of porcelain and glass	18,634,000
34	Imitation jewellery	5,656,750
35	Containers of iron or steel	13,310,000
36	Stoves, heating apparatus, cookers (including those also connected to central heating), cooking rings, boilers, plate heaters and other similar non-electric apparatus for domestic use and parts, of cast iron or steel	7,320,500
37	Other manufactures of cast iron and steel	14,641,000
38	Copper manufactures	6,655,000
39	Aluminium manufactures	7,320,500
40	Hand tools for industry	36,602,500
41	Saws and blades	19,965,000
42	Cutlery and table sets of iron or steel	13,310,000
43	Marine engines (not liberalised) and parts for the manufacture of the same	29,947,500
44	Engines for use on land (not liberalised) and parts for the manufacture of the same	116,795,250
45	Motor pumps and motor compressors (not liberalised)	26,620,000
46	Refrigerators up to 250 litres	91,506,250 (18,301 units)
47	Dumpers	133,100,000
48	Television and radio receivers	19,965,000
49	Radio transmitters and transmitter-receivers	44,255,750
51	Tractors	257,684,100 (2,143 units)
53	Buses, fire-engines and parts for the manufacture of commercial vehicles	166,375,000
55	Phonographs, dictaphones and other apparatus for sound recording and reproduction	13,310,000

EDB Ext. 462

Federal Republic of Germany

TEXTILE MARKING LAW: An announcement on page 787 of the *Board of Trade Journal* dated March 18, 1970, confirmed that the effective date of the German Textile Marking Law had been amended from September 1, 1970 to September 1, 1971. A further announcement has been made in the Federal German *Bundesanzeiger* dated August, 3, 1971 in the following terms:

'On July 26, 1971 the Council of Ministers of the European Economic Community adopted the Textile Marking Directive. This Directive will harmonise the various regulations concerning textile marking within the Community and facilitate inter-Community trading in textiles.

'The German Textile Marking Law of April 1, 1969 which has not yet come into force will be harmonised with the Directive. The amending Bill necessary to achieve this harmonisation will be submitted to the German parliament as soon as possible, in order that the Textile Marking Law can come into force in its new uniform version on September 1, 1972.

'The Directive also grants member States a term of 24 months from the coming into force of the Law for using up textile goods which are not yet marked in accordance with the new regulations. It is intended to ask the German parliament to agree to this.'

EDB Ext. 466, 467, 482

The lists of Tariff, Customs and Import Regulations changes in overseas countries published in this section of *Trade and Industry* sometimes contain words which are registered trade marks in the United Kingdom. So far as is practicable, all lists of goods are checked before publication from this point of view. Items which fall into this category are preceded by the letters rtm. Readers should note that this prefix signifies that the words are registered as trade marks in the United Kingdom but that in the present context are assumed to refer generally to products of the descriptions stated in brackets. While every attempt will be made to ensure that the scrutiny is complete, the lists may contain other words which are registered as trade marks in the United Kingdom or in other countries but which it has not been possible to identify.

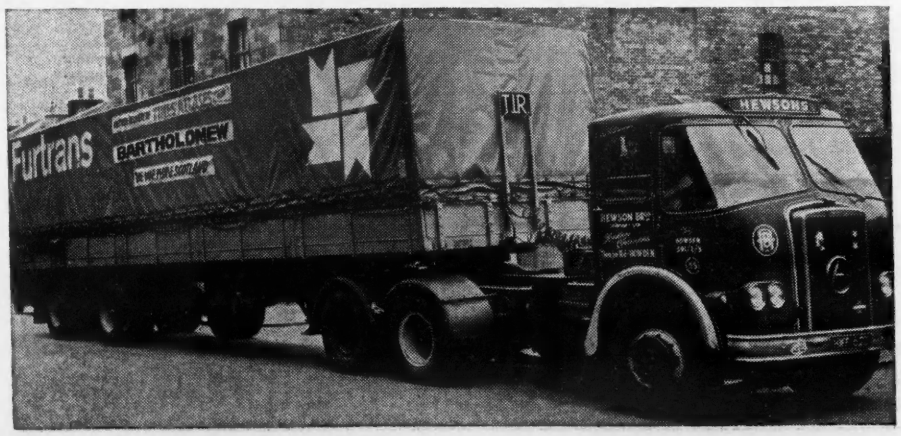
Irish Republic

IMPOSITION OF DUTIES—METAL BADGES AND FOOTWEAR HEELS: Under the Imposition of Duties Act, 1957, and the Finance Act, 1962, the Government of the Irish Republic have made an order, the Imposition of Duties (No. 192) (Metal Badges and Footwear Heels) Order 1971. This order imposes a Customs duty on badges, medals and medallions made of copper, nickel, aluminium, zinc, or tin, and secondly, extends the duties on certain heels at tariff headings 64.05(B) (3) (b), 64.05(B) (4) (b) and 64.05(B) (5) (a) to include parts of heels. The rates applying to badges, medals and medallions are as follows:

Tariff heading	Licensing provision	Full	Preferential	Special Pref.	UK	NI
74.19 (C1)	a	26.7%	26.7%	26.7%	10.7%	10.7%
75.06 (C1)	a	26.7%	26.7%	26.7%	10.7%	10.7%
76.16 (H2)	a	26.7%	26.7%	26.7%	10.7%	10.7%
79.06 (A1)	a	26.7%	26.7%	26.7%	10.7%	10.7%
80.06 (B1)	a	26.7%	26.7%	26.7%	10.7%	10.7%

The Order applies to goods affected in respect of which entries have not been passed before the close of the official day on July 26, 1971.

EDB Ext. 466/7



The pages for 15,000 copies of the Times Atlas of the World, German Edition, leaving the printing works of John Bartholomew and Son Ltd., on their way to Amsterdam for binding, thence onwards to the German publishers. The printing of this export edition was watched with great interest by The Duke of Edinburgh when he visited John Bartholomew and Son Ltd.

Italy

ROAD TRANSPORT (LONG AND WIDE LOADS): It has been reported that some British haulage vehicles are arriving at Italian frontiers unaware of the procedures necessary for obtaining permission for the movement on Italian roads of extra-long and extra-wide loads and for procuring police escorts for such loads.

Applications for permission to move these loads must be made in person by the applicant or by the applicant's accredited agent on official stamped paper (known as 'carta bollata' and obtainable at tobacconists in Italy at a price, for this particular purpose, of 500 lire) to the ANAS (Azienda Nazionale Autonoma Delle Strade Statali) of each province through which it is intended to travel. The permits obtained through these applications must be handed in to the road police of the first district in which the lorry enters Italy at least two days before it arrives and at the same time they must be accompanied by a deposit against escort charges.

It is necessary, therefore, *well in advance* either to send a representative to Italy to complete these formalities before the load actually arrives at the frontier or to appoint a local agent to do so. Most reputable carriers in Italy know of these regulations and are prepared to act on behalf of British companies, but sufficient notice is essential to avoid delaying the load.

EDB Ext. 466, 467, 482

Turkey

IMPORT REGULATIONS: On July 27, the Turkish Ministry of Economic Relations announced that tyre tubes and tyre cases, other than bicycle tyres in Liberalised Import List No. II can now be imported only by recognised agents acting on behalf of factories, and these goods must not have been manufactured more than six months before the date of importation. No further information is available.

On July 28 the Ministry also announced that under the new $30,000 import quota for 1971 for the importation of hand tools to be used in repairing and maintenance of tractors and motor vehicles under tariff numbers 87.01, 87.02 and 87.03, Turkish importers will have to apply to the Ministry of Commerce and Industry for permission to import under this quota. No further information is available.

EDB Ext. 420, 475

Republic of South Africa

CUSTOMS TARIFF APPLICATION: Customs Tariff Application List no. 533 published in the South African *Government Gazette* No. 3226 of August 14, contains an application to the Board of Trade and Industries for an increase in duty on the following:

1. Certain ball and roller bearings, and parts thereof, by the substitution for the existing provision under tariff heading 84.62 of the following provision:

   84.62.10; Single row radial ball bearings (exluding angular contact ballbearings) and single row tapered roller bearings, with an outside diameter of not less than 31 mm but not exceeding 90 mm.—

   84.62.10.10; of mass each not exceeding 0.26 lb; general, 37% or 171 cents per lb; mfn, 30%, UK, 27%.

   84.62.10.20: of mass each exceeding 0.26 lb but not exceeding 0.50 lb; general, 30% or 101 cents per lb; mfn, 30%; UK, 27%.

   84.62.10.30; of a mass each exceeding 0.50 lb; general, 30% or 59 cents per lb; mfn 30%; UK, 27%.

   84.62.20; Parts identifiable for use with bearings of subheadings 84.62.10; general 30% or 171 cents per lb; mfn, 30% UK, 27%.

   84.62.90; Other; general, 5%, mfn, 3%; UK, free.

2. Prepared electrical insulating tape, of glass fibre, not coated or impregnated, from 5% *ad valorem* (general) and free of duty (United Kingdom) to 25% *ad valorem* (general) and 20% *ad valorem* (United Kingdom).

Customs Tariff Application List No. 533 also contains an application for a reduction in the duty on: vacuum cleaners, electrical, non-domestic, classifiable under tariff sub-heading 84.59.90, from 20% *ad valorem* to 50% *ad valorem* (general) and free (United Kingdom and Canada).

Those British trade organisations thought to be interested in the application are being informed. Any British firm affected which wishes to make representations to the South African Board of Trade and Industries and belongs to a trade organisation should, therefore, first contact its own trade association. If any firm proposes to make independent representations to the South African authorities and requires further information concerning the application it should address inquiries to the Commercial Relations and Exports Division,

CRE Ext. 2274

UAR (Egypt)

EXCHANGE CONTROL: The Eygptian Exchange Control Regulations have been amended by Decrees No. 553 and 554 of 1971. The changes relate to the amount of foreign currency which may be purchased by persons leaving the country and the operation of external accounts for resident foreigners, non-resident foreigners and Egyptians working abroad.

EDB Ext. 420, 475

Lebanon

DUTY ABOLITIONS: The Lebanese Authorities have announced that the following items can now be imported duty free:

Tariff No.	Description of goods	Previous duty ad valorem	Present duty
29.06.23b	Hexyl Resorcinol	8%	Free
29.33.11a	Phenylmercury Acetate	8%	Free as from 14.6.71
74.03.25c	Pure copper bars, not exceeding 15 mm in diameter	8%	Free
76.02.12b	Pure aluminium bars from 8–12 mm inclusive in diameter	minimum 20%	Free as from 17.7.71

EDB Ext. 420, 475

Dahomey

IMPORTATION OF SCHOLASTIC ARTICLES: It was announced on June 29 that the importation into Dahomey of the following articles is to be submitted to prior authorisation:

Exercise books 32; 48; 95 pages
Drawing-book
Music-book
Scholar's note-book, 200 and 300 pages
50 double sheets for copies
Rough book: 32; 48; 96 pages
Registers: models 1 and 2
Desk diaries
Tear-off pads: 100; 250; 1,000 pages
Pocket diaries
Note-pads, Shorthand-pads } all types
Squared paper
Calendars
Registers: all types
Practice work books: bound; unbound
Refills for blocks: 1, bristol-bound cards, all types

IMPORTATION OF CEMENT: It was announced on June 28, 1971 that the importation of cement into Dahomey is to be submitted to prior authorisation.

Overseas publicity for UK trade fairs

British commercial representatives overseas are keen to publicise UK trade fairs and exhibitions, and welcome posters and brochures from fair organisers. But material must be sent well in advance—at least three clear months ahead of the event—and in sufficient quantity—two or three dozen copies for the representative in each area. A full list of names and addresses of commercial representatives is published as a quarterly supplement to *Trade and Industry*, and last appeared in the issue of June 30.

Sierra Leone

APPLICATION FOR IMPORT LICENCES 1971: In a notice published in *Trade and Industry* of October 21, 1970 (pages 47–48), details were given of Sierra Leone Government Notice No. 1035, which invited application from importers for those goods they desired to import into Sierra Leone during the period ending December 1971. This notice has now been amended by Government Notice No. 729 published in the *Sierra Leone Gazette* of August 5 to include the following items for which specific licences are required:

Item	Commodity description
013–810	Corned meat in airtight containers
022–110	Milk and cream (including buttermilk, skim/milk and whey) evaporated or condensed (in liquid, or semi-solid form) sweetened
022–120	Milk and cream (including buttermilk, skim/milk and whey) evaporated or condensed (in liquid, or semi-solid form) unsweetened
032–011	Sardines, excluding pilchards
055–530	Tomatoe puree, paste and concentrates
055–590	Baked beans only
061–200	Beet and cane sugar refined
071–300	Coffee extracts, coffee essences and similar preparations containing coffee
074–000	Tea and mate
421–500	Olive oil
421–900	Soya bean oil, cotton seed oil, sunflower seed oil, rape, colza and mustard oil
422–800	Fixed vegetable oils, n.e.s.

EDB Ext. 471/2/3

Kuwait

CUSTOMS DUTIES INCREASED: Customs duty on imports of the following materials and commodities will be raised to the percentage shown against each with effect from November 1 this year:

Description	Customs duty %
1. Cast iron	
a. Cast iron household sewer pipe joints b. Cast iron asbestos pipe joint c. All types of cast iron covers for inspection, sewer and drain rooms and manual manholes	15
2. Aluminium products	
a. Aluminium windows b. Aluminium doors c. Aluminium interior partitions (completely manufactured units for the purpose of assembly or fitting)	15
3. Plastic products	
a. Artificial sponge b. Mattresses of artificial sponge c. Pillows of artificial sponge d. Household wares made of melamine	15
4. Aerosol products	
a. Insecticides b. Furniture cleaning materials c. Glass cleaning materials d. Deodoriser	15
5. Paints	
a. Anti-corrosion paints b. Industrial paints used for industrial installation	15
6. Steel furniture	
a. Steel office desks b. Multi-purpose steel cabinets c. Steel angles and shelves for making storage shelves d. Steel bedsteads	10
7. Wooden household furniture	
a. Wooden furniture for bedrooms, living rooms and dining rooms b. Wooden kitchen cupboards and shelves c. Wooden bookcase	15
8. Foodstuffs	
a. Hard biscuits	10
9. Packing Materials	
a. Kraft paper bags (printed or otherwise) used for packing foodstuffs and ready-made garments b. White paper bags (printed or otherwise) c. Nylon bags (printed or otherwise) d. White paper handbags (printed or otherwise) e. Paper rolls (printed)	15
10. Metal products	
a. Steel wool	10

The former customs duty of 4 per cent will be applied in respect of imports of the above arriving in Kuwait after November 1 this year provided that the letter of credit is proved to have been opened before the publication of the order for the increase on July 25, 1971.

Ivory Coast

IMPORT PROHIBITION: It was announced on March 10, 1971 that the importation into the Ivory Coast of broadcasting and receiving equipment of a unit value equal to or less than 7000 FCFA has been prohibited.

EDB Ext. 471/2/3

Republic of Korea

RESTRICTED IMPORT ITEMS: The Korean Ministry of Commerce and Industry has announced amendments to the regulations covering the import of various restricted items during the second half of this year. The number of the import quota items has been raised by one with the addition of slide fasteners, and the overall import quota of certain items has also been raised. Eight new items have been added to the category of items import of which is subject to recommendation of the Ministry of Commerce and Industry. These include lanolin, saw-logs, paper/board labels (non-printed), iron and steel scrap, parts of car coolers, and watch movements. The annual import quota for raw sugar has also been raised.

EDB Ext. 420, 475

Philippines

IMPORT OF CERTAIN MACHINERY AND EQUIPMENT: The Philippine Central Bank announced in a circular dated July 27, that prior approval shall not be required for the importation of certain agricultural machinery and equipment and machinery and equipment for the exclusive and direct end-use of firms registered with the Board of Investments, provided that such firms are not engaged in an industry regarded as being over-crowded. However, this does not apply to imports under deferred payment terms having a maturity period of over 360 days which shall continue to be subject to the prior approval of the Central Bank.

EDB Ext. 468, 469, 401

New Zealand

EMERGENCY PROTECTION AUTHORITY—ADHESIVE PAPER: The New Zealand Minister of Industries and Commerce has referred to the Emergency Protection Authority for inquiry and report the question whether it is necessary that protective action, by means of temporary additional duties or temporary restriction of importation (or by a combination of both), be taken in respect of cast coated self-adhesive paper in sheets of 300 sq. in. or more. Details of the tariff items, under which the above mentioned goods are dutiable, are given below:

Tariff item	Unit	British preferential	Most favoured nation	General
48.07.18	Cwt	20%* Aul 8%*	30%*	35%*
48.07.19	Cwt	Free	10%	12½%

* Or such lower rate of duty as the Minister may in any case direct.

The Emergency Protection Authority is required to report to the Minister by September 13, 1971. In the short time available for investigation United Kingdom interests wishing to make their views known to the Emergency Protection Authority will no doubt get in touch with their agents or the Director of the British Trade Association of New Zealand Inc., P.O. Box 2286, Wellington, New Zealand, telegraphic address 'Transtrade', telephone Wellington 43-706. The BTANZ charges a fee for its services, the amount varying according to the work entailed and whether the trade association or firm is a member. Details may be obtained from the BTANZ.

Any British trade association or firm requiring further details or proposing to submit evidence is asked to advise the Commercial Relations and Exports Division. Reference CRE 3066/71.

CRE Ext. 2321

EMERGENCY PROTECTION AUTHORITY REPORT: Copies of the following New Zealand Emergency Protection Authority report have been received and are available from the Commercial Relations and Exports Division.

Tariff item	Description
84.65.09	Pneumatic cylinders and parts thereof

Ref: CRE 859/69

CRE Ext. 2321

Argentina

AIRCRAFT AND ASSOCIATED EQUIPMENT—TARIFF AMENDMENTS, SPECIAL CONCESSIONS, INTRODUCTION OF SPECIAL TAX: Law No. 19112, published in the *Boletin Oficial* of July 14, 1971, modified Article 54 of Law No. 11821 by including a 'special tax on the importation of aeroplanes and other goods destined for aeronautical activity'. The regulations which are set out in Decree No. 2241 in the *Boletin Oficial* of July 19, 1971, stipulate that such goods are charged at rates of 3 per cent, 5 per cent, 10 per cent and 15 per cent *ad valorem* cif.

Goods destined for state organisations, 'whether nationalised, provincial or municipal, centralised or de-centralised', are exempt. Goods consigned under LAFTA agreements, 'provided that they conform to the requirements for aeronautical use and those established for special uses in this field' are also exempt.

Decree No. 2241, published in the *Boletin Oficial* of July 19, 1971, made certain additions to the tariff headings, replaced existing headings and duties and substantially lowered the rates of import duties.

1. The following headings and duties are to be incorporated in place of those already existing:

Tariff No.	Description	Rate of duty *ad valorem* c.i.f.
88.02.00.01	New aeroplanes of up to two tons maximum take-off weight	30%
88.02.00.20	New aeroplanes of over six tons maximum take-off weight whose seating capacity is over 18	Free
88.02.00.50	Gliders constructed according to prevailing homology standards	Free
88.02.00.60	New helicopters of up to three tons maximum take-off weight	5%

2. The following additions to the tariff are to be inserted:

Tariff No.	Description	Rate of duty *ad valorem* c.i.f.
88.02.00.05	New planes with alternating engines of over two tons and up to six tons maximum take-off weight	5%
88.02.00.10	New aeroplanes, with turbo-engines of over two and up to six tons maximum take-off weight, whose seating capacity is over 18	Free
88.02.00.15	New aeroplanes, with turbo-engines of over two tons maximum take-off weight with a seating capacity of up to 18	10%
88.02.00.25	Second hand aeroplanes of over six tons maximum take-off weight, with turbo-engines, with a seating capacity of 40 or more, not more than 7 years since delivery from the factory	30%
88.02.00.65	New helicopters of over three tons maximum take-off weight	Free

3. The following goods are exempt from payment of import duties until further notice provided that they are of specific use in the aeronautical industry, and are not produced by Argentinian producers:

(i) engines, propellers, equipment, instruments, accessories, spare parts and raw materials for use in aero-spacial activities.

(ii) new machines, new equipment, special tools and equipment destined for the manufacture, repair and maintenance of aeroplanes and aero-spacial equipment.

(iii) measuring, control and testing apparatus for the repair and maintenance of aeroplanes and aero-spacial equipment.

(iv) equipment destined for servicing, help and protection of flights or specifically for aeroplane sub-structures.

(v) equipment, instruments, materials and chemical products, destined exclusively for aero-spacial uses.

(vi) land-training equipment, parachutes and parts thereof.

(vii) materials, equipment, accessories and spare parts destined for aerial photography and aerial photogrammetry.

For the purposes of exemption from payment of import duties laid down above, interested private firms and official departments shall follow the following procedure:

(*a*) They must commence the action before the Commander in Chief of the Air Force, who shall intervene in order to determine whether the goods to be imported are of special use in the aeronautical industry, as well as whether they satisfy the current standards of Homology and Standard Service Orders.

(*b*) With the previous information required, the exemption application shall be considered by the Ministry of Industry, Trade and Mining in order to take into account the possibilities and situation of the national industry with regard to the importation of the said goods and equipment.

The certificate that shall be issued jointly by the Commander in Chief of the Air Force and the Minister of Industry, Trade and Mining, shall exempt the goods specifically mentioned from payment of import duties for purposes of presentation to the National Customs Administration.

EDB Ext. 474, 476, 7312

MOTOR INDUSTRY LAW: On August 3 the official version of the new Argentine Motor Industry law was published in the *Boletin Oficial*. Separate parts of the law deal with component manufacturers, terminal manufacturers, importation, exportation, know-how and sanctions, and further details can be obtained on request.

EDB Ext. 583

Peru

BAN LIFTED ON OXIDISED SOYA OIL: Peruvian Supreme Decree No. 066-71-EF of June 16, 1971 removes the following item from the prohibited list:

Tariff No.	Description
Ex 15.08.0.99	Oxidised soya oil

NEW TARIFF HEADINGS INTRODUCED: Under Peruvian Supreme Decrees, Nos. 066-71-EF of June 16, 1971, and 098-EF-71 of June 30, 1971, the following new tariff headings are created:

(*continued on next page*)

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PERU
continued

Tariff No.	Description	Unit	Rate of duty Gold soles		Ad val cif
P 38.19.1.23	Stabilisers in a solid state with a lead base	KG	3.00	+	30%
38.19.1.25	Stabilisers in a solid state with bases of other organic salts	KG	3.00	+	30%
P 38.19.1.26	Stabilisers in a liquid state with bases of barium, cadmium and zinc organic salts	KG	3.00	+	30%
38.19.1.27	Stabilisers in a liquid state based on other organic salts	KG	3.00	+	30%
92.12.2.06	Clean magnetic discs for electronic computers	KG	10.00	+	30%
92.12.2.07	Clean magnetic tapes for electronic computers	KG	10.00	+	30%

KG = Kilo gross weight. P = Prohibited.

EDB Ext. 474, 476, 7312

Ecuador

ALTERATIONS TO SOME IMPORT DUTIES: Supreme Decree No. 1001 of July 13, 1971, alters the rate of import duty on the following products:

Tariff No.	Description	Revised rate of duty Sucres per KN		*ad val* cif
12.01.01.00	Groundnuts	0.20	+	20%
12.01.02.00	Copra	0.20	+	20%
12.01.03.00	Palm kernals and nuts	0.20	+	20%
12.01.04.00	Soya	0.20	+	20%
12.01.05.00	Linseed	0.20	+	20%
12.01.06.00	Cottonseed	0.20	+	20%
12.01.07.00	Castor oil seeds	0.20	+	20%
12.01.08.00	Colza seeds	0.20	+	20%
12.01.09.00	Sesame seeds	0.20	+	20%
12.01.89.00	Other oleaginous fruit	0.20	+	20%
22.09.02.01	Spirits made from wine	30.00	+	30%
22.09.02.02	Spirits made from grapes	30.00	+	30%
22.09.02.03	Spirits made from sugar cane	30.00	+	30%
22.09.02.04	Spirits made from agaves	30.00	+	30%
22.09.02.05	Gin	30.00	+	30%
22.09.02.06	Vodka	30.00	+	30%
22.09.02.07	Whiskey	30.00	+	30%
22.09.02.99	Other spirits	30.00	+	30%
22.09.04.01	Concentrated extracts for gin	30.00	+	30%
22.09.04.02	Concentrated extracts for whisky	15.00	+	30%
22.09.04.03	Concentrated extracts for rum	15.00	+	30%
22.09.04.99	Other concentrated extracts	20.00	+	40%
65.07.89.00	Other	20.00	+	60%
70.13.89.99	Other	25.00	+	70%
73.35.00.02	Flat spiral springs	4.00	+	55%
73.35.00.03	Helicoidal springs	4.00	+	55%
73.35.00.99	Other	4.00	+	55%
83.12.01.00	Frames made of metal			130%
83.12.02.00	Mirrors made of metal	15.00	+	70%
83.15.00.01	Electrodes made of iron or steel	0.80	+	30%

EDB Ext. 474, 476, 7312

Chile

ROAD RACING BICYCLES: Decree No. 1169/71, published in the *Diario Oficial* of July 20, 1971, amended the existing sub-heading of B.N. 87.10 ('with a maximum weight of 11 kilograms'), to an increased maximum weight of 13 kilograms. The heading should now read as follows:

Tariff No.	Description	Unit	Rate of duty Specific Gold Pesos	*Ad valorem* c.i.f.
87.10.01	Road racing bicycles with tubular rims of duralumin and with a weight of less than 13 kilograms	K.G.	Free	100%

EDB Ext. 474, 476, 7312

Mexico

IMPORT DUTY AND TARIFF AMENDMENTS: There have been a number of amendments to the Mexican Tariff and also to the rates of import duty. The tariff numbers, as amended, are set out as follows:

Tariff No.	Description	Rate of duty Specific	+ Ad Val
29.38.A.046	L-Menthyl ester of d-panothenic acid	0.60	15%
29.42.A.097	Dihydroxipropytheophiline or 7-(beta-hidroxypropyl) theophiline	Free	20%
29.42.A.156	Mixture containing equal parts of hydroergocornini metasulfonate; dehydroergocristine; and dehydroergocriptine	0.15	20%
29.42.A.999	Other	Free	20%
29.44.A.028	Morpholinacetate or pantotenate of chloramphenicol	Free	10%
29.44.A.081	Guaiacolsuphonate of N-(pirrolidinmethyl) tetracycline or of tetracycline	Free	7%
29.44.A.999	Other	Free	20%
30.02.A.034	Immunised human globulins	Free	Free
30.02.A.035	Vaccine against erysipelas	Free	16%
30.03.A.070	Medicaments in soft gelatine capsules, not put up for retail sale; even when presented in tropicalised containers	Free	50%
30.03.A.076	Deleted		
30.03.A.077	Medicaments with a base of vitamins, minerals and/or litropics, in soft gelatine capsules, not put up for retail sale, even when presented in tropicalised containers	Free	50%
30.03.A.078	Deleted		
30.03.A.079	Deleted		
30.03.A.165	Powder formed with skimmed milk and polysiloxane dimethyl	Free	16%
30.03.A.166	Medicaments of despecified and liofilised liver	Free	5%
35.06.A.999	Other	Free	11%
38.11.A.041	Fumigation preparation with a base of aluminium phosphide and urea or ammonia carbamate or sodium chloride	Free	5%
38.19.A.026	Indicators of temperature by means of fusion	Free	7%
38.19.A.152	Mixture of ammonia of lauril sulphate and of trietanolamine	0.50	25%
38.19.A.153	Mixture of alkyl aminos where the radical alkyl may be of 16 to 18 atoms of carbon	0.50	50%
38.19.A.154	Mixture based on laurate polyetylenglycol sulphates of trilaurate glyceril, sulphates of tripalmitate of glyceril, sulphates of trimiristates of glyceril, laurilamide, miristilamide and palmitilimide	0.75	45%
38.19.A.155	Preparation containing graphite, synthetic resins, and one or more solvents in which these do not exceed more than 50%	Free	25%
38.19.A.999	Other	Free	46%
39.01.A.015	Polyethyleneamine	Free	15%
39.02.B.038	Copolymer of ethylene and vinyl acetate	Free	20%
40.14.A.003	Gaskets (packing)	Free	25%
44.03.A.016	Of walnut	Free	20%
44.03.A.017	Of 'virola or banak'	Free	10%
44.03.B.005	Deleted		
44.04.A.001	Boards, planks or beams of fine wood	Free	12%
44.04.A.002	Of pine (okote or American pine) or silver fir tree (oyamel) in boards, planks or beams, with a thickness equal to or less than 90 mm.	Free	12%
44.04.A.003	Of pine (okote or American pine) or silver fir tree (oyamel) in boards, planks or beams, with a thickness greater than 90 mm. but not exceeding 130 mm.	Free	12%
44.04.A.004	Of pine (okote or American pine) or silver fir tree (oyamel) in boards, planks or beams, with a thickness greater than 130 mm.	Free	12%
44.05.A.001	Fine, in boards, planks or beams	Free	15%
44.05.A.002	Of pine (okote or American pine) or silver fir tree (oyamel) in boards, planks or beams, with a thickness equal to or less than 90 mm.	Free	15%
44.05.A.003	Of pine (okote or American pine) or silver fir tree (oyamel) in boards, planks or beams, with a thickness greater than 90 mm. but less than 130 mm.	Free	15%
44.05.A.004	Of pine (okote or American pine) or silver fir tree (oyamel) in boards, planks or beams, with a thickness greater than 130 mm.	Free	5%
48.01.A.037	Based on calendered alpha cellulose, of up to 60 but not more than 210 grams per square metre and a resistance of 250 to 750, in rolls of 75 but over 170 cm. wide	Free	13%
48.01.A.043	With a base of alpha cellulose or rayon; 100% whitened or coloured in its mass, with a weight per square metre of up to 20 grammes without exceeding 60 grammes and a width greater than 0.137 mm. but not above 0.27 mm., in rolls	Free	13%
48.03.A.003	Weighing 60 grammes or less per square metre except that in 48.03.A.001	Free	25%
48.07.A.001	Couche, with a weight per sq. metre of up to 100 grams	Free	50%
48.07.A.002	Couche, with a weight per sq. metre of more than 100 grams	Free	50%
48.07.A.003	Lustre, with a weight per sq. metre less or equal to 100 grams	Free	50%
48.07.A.004	Lustre, with a weight per sq. metre of more than 100 grams	Free	50%
48.07.A.037	White, absorbent, containing 100% chemical pulp, with printed designs on one side, weighing 76 grams or less per sq. metre and resistance of 80 to 1,250	Free	25%
48.07.A.039	Of unbleached or dyed pulp, absorbent, containing 100% chemical pulp, with printed designs on one side, weighing 76 grams or less per sq. metre and with a resistance of 80 to 1,250	Free	25%
48.07.A.040	Painted on one side, absorbent, containing 100% chemical pulp with printed designs on one side, weighing 240 grams or less per sq. metre and with a resistance on the 'Mullen' apparatus of 150 to 1,200 grams per sq. cm.	Free	35%

MEXICO
continued

48.07.A.047	Filter paper impregnated with synthetic or artificial resins whether or not coloured or corrugated	Free	16%
48.07.A.999	Other	Free	100%
48.15.A.008	Strips not more than 2 cm. wide, with a film of plastic on one side, whether or not waxed or having adhesive substances on the other side	Free	8%
48.21.A.010	Recording paper ..	Free	12%
50.09.A.001	Crude or bleached, except that in 50.09.A.005	Free	50%
51.01.D.001	Not processed or modified, with 150 or less turns per metre	Free	17%
51.04.A.014	Of synthetic fibre containing from 106 to 120 threads per sq. cm., between 30 cm. and 48 cm. in width, weighing from 70 to 76 grams per sq. metre	Free	26%
53.05.A.002	Wool or hair combed into skeins (tops) except that in 53.05.A.001 and 004	Free	11%
53.05.A.004	Hair of the common goat, combed into skeins (tops)	Free	11%
55.03.A.001	Strippings	Free	5%

EDB Ext. 474, 476, 7312

United States

ECONOMIC MEASURES: THE guidance given to exporters in the following notice is based upon information received up to noon on Monday, August 23.

Import Surcharge

A supplemental temporary duty of 10 per cent *ad valorem* has been imposed on all dutiable items with effect from August 16, 1971. The additional duty will be based on present valuation for duty purposes (which in most cases approximates to fob). For those articles where the existing duty plus the surcharge would exceed the column 2 rate of duty in the United States tariff (this is the basic rate before negotiated tariff reductions), the column 2 rate will apply. In practice most British exports will be subject to the full 10 per cent surcharge. United States customs are calculating and imposing estimated duties on all imports to which the surcharge applies. Articles are being released but final processing of the customs entries is being delayed pending further instructions.

Exceptions to the surcharge

The surcharge will not apply to: (1) Articles imported before 00.01 hours on August 16, 1971, and released by customs before that time. (2) Articles imported before 00.01 hours on August 16, 1971, if prior to that time any entry for consumption has been presented for acceptance at any custom house whether or not such entry had been accepted on estimated duties paid. (3) Articles free of duty including articles temporarily free under statutory suspensions.

(4) Articles free under the 10 dollar gift or the 50 dollar military provisions.

(5) Articles under the tourist or diplomatic exemptions.

(6) Articles not subject to trade concessions.

(7) Articles subject to statutory quotas.

It is expected that the United States Treasury will issue its first list of specific exceptions to the surcharge shortly.

EDB Ext 455/6/7

Price freeze

Although a 90 day price freeze has been imposed, the US Treasury have issued a press release stating that importers will be permitted to pass on to the consumer the amount of the additional duty levied on imports. No other price increase is permitted.

Job development tax credit

The US administration will introduce legislation to provide a tax credit of 10 per cent of the cost of purchases of new machinery and equipment produced in the US with effect from August 16, 1971. After one year the credit will drop to 5 per cent. No credit is allowed on machinery and equipment predominantly produced outside the United States while the import surcharge is in effect. When the surcharge is terminated a credit at the rate of 5 per cent will be allowed on foreign produced items. The credit will not be available for used items or those with a life of four years or less. For items with a life of from four to six years the allowance will be one-third of the full credit and for those with a life of from six to eight years it will be two-thirds. The credit will be limited to the taxpayers tax liability up to $25,000 plus 50 per cent of the tax liability in excess of $25,000. Transitional rules will be provided at the end of the period of 10 per cent credit so that items under contract or essential to facilities under contract will be entitled to the 10 per cent credit if placed in service by February 15, 1973. The credit for public utility property will be allowed at half the rate for other property.

Disc export incentive

The United States administration will introduce legislation to implement the disc (domestic international sales corporation) proposal for the tax deferral for earnings from export sales by US companies with effect from January 1, 1972. This measure is intended to provide United States producers with a substantial stimulus to increase their exports.

CRE Ext 2397, 2647

HAZARDOUS SUBSTANCES—LABELLING OF CHARCOAL BRIQUETTES: The *Board of Trade Journal* of September 23, 1970, gave notice of proposals for special labelling of charcoal briquettes. After consideration of comments received, the United States Commission for Food and Drugs has announced that the proposals will become effective on August 1, 1972. (Ref. F.R.11.8.71).

EDB Ext. 455/6/7

FIREARMS LEGISLATION: *Trade and Industry* of April 28 published a notice of the issue of proposals affecting the importation, manufacture, exportation, identification and registration of and dealing in machine guns, destructive devices and certain other firearms. After a period in which public comment was invited these proposals have now been accepted with some minor amendments.

EDB Ext. 455/6/7

Canada

HAZARDOUS PRODUCTS (HAZARDOUS SUBSTANCES) REGULATIONS: The Canadian Government have issued Order in Council PC 1971-1285 dated June 29, 1971, amending Sections 3 and 4 of the Regulations. The amendment lays down additional conditions under which a person may import into Canada a product included in items 1-11 of Part II of the Schedule to the Hazardous Products Act, the container of which is not labelled in accordance with the general provisions of the Regulations. In brief, the main conditions are that the importer must give prior notification of the imports and re-label or re-package the products to comply with the general rules (ie labelled in both the English and French languages to show the symbols, words and statements required by the Regulations). Copies of the amendment are available to British exporters on application.

ESD Ext. 455/6/7

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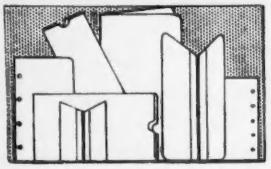

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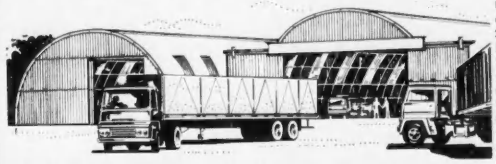

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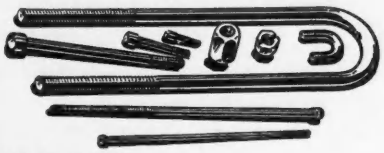

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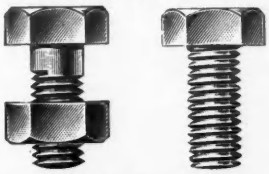

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